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RECREATION HANDBOOK

PLANNING

DESIGN, DEVELOPMENT

& MAINTENANCE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

OREGON

RECREATION HANDBOOK

PLANNING, DESIGN, DEVELOPMENT

AND

MAINTENANCE GUIDELINES

Francis J. Horak

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PART I - RECREATION PLANNING

CHAPTER I - RECREATION POLICY AND PLANNING

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I - RECREATION POLICY AND PLANNING

A. Recreation Policy

Public outdoor recreation in all of its many forms has increased in importance to such a degree that it has gained recognition in Oregon as one of the major resource management functions of the Bureau of Land Management. Under this program, all public lands administered by the Bureau which possess significant existing or potential value for public recreation purposes are to be identified and the recreational values safe-guarded by the Federal Government or by appropriate arrangement with state or local governments.

It is our objective to administer the multiple resources, such as timber, forage production, water, minerals, and recreation, on Bureau lands under the concept of balanced use. In planning and carrying out various resource management activities, we must give due consideration to the recreational values that may be present, and use every means to protect and enhance those values. Timber on potential recreation sites will not be deducted from allowable cuts, but will be placed in a deferred cutting class and managed in accordance with instructions contained in State Director's memorandum, subject: "Recognition and Treatment of Recreational Areas," found on page 6, Chapter I, Part II, of this handbook. The Bureau will take the initiative in providing access to the public lands for both the recreationist and the commercial user.

In the past, we have cooperated with and relied upon the state and local government agencies to develop recreation facilities on Bureau lands. At the present, we are embarking on a program of Bureau developments. This program is not to be construed as one to take the place of cooperative developments with local government agencies. Rather, this is to provide a coordinated system of recreation developments under diversified ownership or control, as ownership or control of any particular site can largely be a matter of chance or agency mission.

B. Statutory Provisions Relating to Recreation

In planning for recreational uses and developments, it is necessary for the planner to know the statutory tools which are available for his use. A brief resume of the major Acts affecting Recreation are as follows:

1. The Taylor Grazing Act of June 28, 1934 (48 Stat. 1269), provides for the orderly use of the public lands.

   a. Section 1 protects the right of the public to hunt or fish on public lands within a Grazing District.

   b. Section 6 allows ingress and egress over public lands within a Grazing District for all lawful purposes.

   c. Section 7 authorizes the Secretary of the Interior to classify public domain lands for their most valuable or most suitable use, which includes recreation use.

d. Section 12 authorizes the Secretary of the Interior to cooperate with any department of the Government in carrying out the purposes of the Act. The purposes of the Act include provision for orderly use, improvement and development of public lands. This has been construed to include recreation.

e. Section 15 authorizes the Secretary of the Interior to provide terms and conditions for grazing leases on public lands outside of Grazing Districts. Regulations under this authority, found at 43 CFR 160.13, provide that the issuance of a grazing lease does not alter or restrict the rights of use of these lands by licensed hunters, fishermen, or other authorized persons.

2. The Act of August 28, 1937 (50 Stat. 874), provides basic authority for the management of recreation on O&C and CBWR lands. Ensuing regulations (43 CFR 115.180 to 184) have authorized the preservation and development of recreation areas by the Bureau or by local governmental agencies through lease or cooperative arrangement.

3. The Recreation and Public Purposes Act of June 14, 1926 (44 Stat. 741), authorizes the Secretary of the Interior, under specific conditions, to lease or sell lands for recreational purposes to qualified applicants. This Act is applicable to public domain lands, with the exception of certain withdrawn lands. Applications for lease only may be filed on O&C and CBWR lands under the terms of this Act.

4. The Small Tract Act of June 1, 1938 (52 Stat. 609), as amended, authorizes the Secretary of the Interior, in his discretion, to sell or lease tracts not exceeding five acres for residence or recreation uses. Lands will not be leased or sold which would lead to private ownership or control of scenic attractions or water resources or other areas that should be kept open to public use.

5. The Public Land Administration Act of July 14, 1960 (74 Stat. 506), provides in Section 102 that:

> "The Secretary of the Interior may enter into cooperative agreements involving the improvement, management use, and protection of the public lands and their resources under his jurisdiction. The provisions of this section shall apply only in those cases where the making of cooperative agreements for such purposes is neither expressly authorized nor expressly prohibited by other provisions of law."

One of the chief advantages of this provision is that the BLM may now participate in cooperative arrangements with non-government groups and private parties for programs which are in the public interest.

C. Classes of Public Recreational Land Use

In studying BLM lands to determine recreational needs, the lands will be separated into three general classes based upon the recreational uses the lands will receive. These general classes are Extensive Use Areas, Intensive Use Areas, and Special Tracts.

1. Extensive Use Areas involve relatively large areas where recreation activities such as hunting, fishing, hiking, and rock hounding are light and carried on in conjunction with other land uses. Generally, the recreation use is compatible with the other uses. Included in this class are lands where the predominant value lies in the preservation of the natural environment.

   The Bureau will normally retain jurisdiction over public lands in Extensive Use Areas when such areas fall within resource management units. This will not preclude the joint development of the recreation use by proper arrangement with other public agencies.

2. Intensive Use Sites usually involve limited acreages and are areas where a recreational use of a more special nature is induced or fostered by some special physical or locational attribute. Examples of such special features might be waterfalls, caves, boat landings, swimming areas, or special scenic attractions.

   The Bureau will encourage the development of such sites by state or local government agencies. By means of leases, cooperative arrangements, or title transfers, the Bureau may convey the lands for recreational use to proper local governments for development. When the site is not part of a resource management unit, the Bureau will stress sales to local government agencies for development of the recreational values. When the site is within a Bureau Management Unit and adequate facilities have not been provided by local government agencies and where it is improbable they will be provided, the Bureau will initiate actions to accomplish the necessary developments.

   Any site with exceptional regional or national recreation value will be retained until the National Park Service has reported their findings as to such site.

3. Special Tracts involve subdivisions having special present or potential recreation values. Examples of this type are ocean coastline or inland water frontage and parcels of land which provide key access to recreational lands. Lands classed as special tracts, whether within or without a resource management unit, will be retained under Bureau jurisdiction until such time that title may be transferred to another public agency for the desired public recreation use.

D. Land Tenure Arrangements for Recreational Uses

One of the important items to be considered in planning recreation developments is the determination of what agency or agencies should logically provide the needed development. Because of the large number of recreation areas and sites on Bureau lands in Oregon, it is impossible for the Bureau to provide all needed recreation developments. Therefore, we have several means by which we are able to provide public recreation facilities on our lands through cooperation with local governmental agencies and private groups. Possible land-tenure arrangements include:

1. Sale or Lease of Recreation Lands to Public Agency

Sale or lease of lands for public recreation use to qualified applicants is authorized by the Recreation and Public Purposes Act.

In order to stimulate expansion of recreation facilities, the Bureau has adopted a pricing schedule which allows local governments to purchase lands suitable for public recreation at $2.50 per acre or lease them for $.25 per acre per year.

The terms of recreation sales will include stipulations that spell out clearly the public recreation purposes to which the lands will be devoted and provisions of forfeiture in the event the terms are violated.

2. Cooperative Management Arrangements with Public Agencies

Cooperative arrangements with local government agencies are authorized under the Taylor Act, the O&C Act and the Public Land Administration Act. Such arrangements will generally include exchanges of views among the participants as to their respective roles in the management of the land and, as necessary, give non-federal parties long-term tenure assurance, leases, patents, easements, or permits covering parts of the lands.

Arrangements of this type may be in two general forms--one in which the Bureau participates in the actual development (Illustration No. 1), and one in which the participating agency performs all of the development work (Illustration No. 2).

This type of arrangement is preferred for areas having any or all of the following characteristics:

a. Substantial acreage (usually 10,000 or more).

b. Substantial multiple use values in addition to recreation.

c. Recreation attributes of more than ordinary significance.

3. Stipulations for Recreational Sale, Lease, or Cooperative Arrangement

Whatever the type of land-tenure arrangement that is made, the state or local government involved must obligate itself to the following commitments, which commitments will be incorporated, by reference or otherwise, in the legal document authorizing use of the lands for park or other recreational purposes.

a. To maintain the lands open to use by the public for recreation purposes without discrimination or favor.

b. To make no more than a reasonable charge for the use of facilities on the land (whether by concession or otherwise) and to charge no more for entrance to the area than is consistent with similar charges made at Federal installations, all charges to be subject to review and modification by the Secretary of the Interior, under due process procedures.

c. To develop and manage the lands in accordance with an approved plan, which plan must be in sufficient detail as to actual developments and time schedules to permit effective enforcement by enabling clear showings of nonperformance if necessary.

d. To allow the BLM to manage, consistent with the recreational objectives of the area, all other values of the lands and to recognize the right of the United States to retain the revenues from such management.

4. Cooperative Arrangements with Non-Government Groups for recreation development are authorized by the Public Land Adminitration Act. These arrangements are similar to those with public agencies and may include Bureau assistance in development or the development may be done entirely by the participant. All such developments shall remain open to the public as a whole. An example of such an arrangement is attached as Illustration No. 3.

E. Interagency Coordination

Coordination of recreation planning and actual developments with the state and local government agencies is of extreme importance, largely due to the scattered nature of Bureau lands and the provisions for local developments on Bureau lands. Proper coordination will allow development of the recreation potentials on Bureau lands under diversified ownership or control.

To proceed toward this objective, it is necessary for coordination to be carried out at all levels. Normally, the District Managers and their staffs will provide coordination of recreation planning and developments with the counties and local agencies within their District boundaries.

Coordination on a state-wide basis involving the state and other Federal agencies will generally be carried out by representatives of the State Director's staff. Such overall coordination, when specific areas or sites are involved, must necessarily be based upon information and recommendations supplied by the Districts.

F. Considerations in Recreation Planning

1. Objectives

The first consideration in planning must be given to the objectives to be reached through recreation planning. Major objectives are as follows:

a. The initial objective is to identify and take action to preserve for public recreational use all areas having potential recreation value, and tracts which provide key access to such areas, on the National Land Reserve and other public lands under Bureau administration.

b. To determine type of development which is appropriate and what agency or agencies should provide the development.

c. To make lands available for development by state and local government agencies.

d. To initiate Bureau developments on selected sites, as funds become available. These developments will include the construction of multiple purpose roads into extensive use areas and installation of intensive use sites.

2. Tools

In recreation planning, the planner should take advantage of all the tools or aids which are at his disposal. Probably the most important tools available are the planner's good judgment and his imagination.

The planner should also make use of all maps (topographic, type, planimetric) and aerial photographs which may be available. Snapshots and sketch maps made at the time of field reconnaissance are helpful aids in future office planning and to make comparisons between available sites.

3. Types of Sites and Areas

Bureau lands in Oregon hold a potential for development of many varied types of intensive use sites and extensive use areas.

The planner should be aware of all types of intensive use sites which may be developed. Some of these are picnic sites, campgrounds, boat landings, historical sites, areas possessing special scenic or natural features, swimming areas, and many others.

Probably the most needed improvement on extensive use areas is the establishment of roads or trails. These should be planned to allow the hunter, fisherman, hiker, rockhound, or other an opportunity to utilize all recreational aspects of the area. Intensive use sites, such as hunter camps or small picnic areas, should be incorporated in extensive area developments where practical.

4. What Do We Look For? 1/

Since we are looking for the best sites available that meet the requirements, we need information to compare the site with others. We need answers to three important questions:

What are the existing recreation interests?
How well can the site be developed?
How useful will it be to the public?

a. Recreation Interests

We need to check the quantity and quality of all of the recreation interests already existing at the site. Naturally, a park site with many interests, such as scenic views, a good lake, trees, and sand dunes, will attract more people than a near-by area with only trees and sand dunes. Also, the quality is vitally important. Frontage on a body of clear, clean water will be vastly different from the same amount of frontage on polluted water. Some recreation features such as scenic values and water interest also have greater overall value than other interests.

(1) Scenic Values

One of the most desirable features for a park is beautiful views or scenery. It may be distant views of a valley or the mountains, or natural features such as a small lake, colorful rock formations, or unusual trees. A site which overlooks a harbor or river may offer interest in the activities of boating traffic. An area on the Coast may have relaxing views of the surf rolling in on a beach. A site may also be attractive just through the beauty of its trees and shrubs. The extent of these interests and how available they will be for the public to enjoy is noted.

1/ Extracted from writings of Richard I. McCosh, State Parks Division, Oregon State Highway Department.

(2) Water

Water interest is one of the most valuable factors you can find for a recreation site. Most park planners look to water frontage for basic park areas. This follows naturally since frontage on an ocean, stream, or lake provides scenic values and opportunities for the very popular recreation activities of bathing, fishing, boating, and other water sports. A body of water is usually the center of interest at parks which attract the greatest picnic and camping use. It also cools the air in summer and nourishes the trees and wild life.

The amount of water frontage, the quantity, and quality of the water and the recreation afforded by it are important. A restricted frontage may be too crowded an area for public use. The quantity of water flow may be critical in that a stream or pond which is attractive in the springtime may become stagnant or dry in late summer. If the site is on a reservoir, the level of the water at various seasons as it affects recreation should be studied. The quality of the water is checked. For instance, a stream which has all of its watershed within a National Forest or other lands under good conservation practices is less likely to be affected by pollution than one passing through unrestricted logging or past an industrial area. Other factors, such as water temperature, depth of water, the fish life it supports, wave action, flooding, etc., will affect its recreation value.

(3) Natural Features

Other natural features which can be of high interest are the forests, canyons, mountains, deserts, seacoast, beaches, sand dunes, waterfalls, springs, etc., with which Oregon is blessed. Just as the National and State Parks place emphasis on features which are of National or State significance, the Counties should seek out these features which are distinctive of their Counties. Although the site may not contain the features themselves, there are often opportunities to include them as additional interest to the site. For instance, the route to the park may lead people past them or display views of them. A group of native trees or plants which are outstanding in a particular county can be featured at the site.

(4) Wildlife

The fish, animals, and birds which may be found at the site are another interest. Fishing interest calls for a check of the species found, quantity and size, the season they are available, and the stocking program of the Fish Commission. Animals may be present at the site or provide hunting in

nearby areas. The site may be on one of the major flyways of migratory birds or have its own resident bird life. Clams, crabs, and other marine life may add interest at coastal areas.

(5) Historical

Each part of the state has its own historical interests with which much can be done. Park visitors are always eager to learn more about the area they are in. The historical sign tells its story, but nothing gets interest across as well as some of the original historical items or places themselves which still have the character of the period covered.

(6) Geological

Notice should be taken of unusual rock formations, deposits, or shapes of the earth's crust in your region. Those which tell a story of the earth's formation in each area can add geological interest to the recreation sites.

(7) Other

An old shipwreck, a high dam, an old covered bridge, a place to find agates or other precious stones (better known as just plain "rock hounding"), or a place to pan gold, etc., may be of interest. Some areas may provide archeological values such as ancient Indian village sites or hunting areas, caves, artifacts, etc.

b. Can We Develop This Site?

How well can the site be developed? We need to look at the physical features of the land to determine how desirable it is for use, what can be done to correct the faults, and what it will cost to make the area meet our needs in comparison to other sites. There are many things that need to be checked here.

(1) Size and Shape

The size of the area alone can be a determining factor. An area may be too small for the needs of the project. Areas should be large enough to include the attractions, have ample space for the use of facilities needed, and have room around the edges to protect the values of the area from encroachment by private developments. Acreage in excess of the minimum is good practice, as recreation areas are never too large for the future and it is often more economical to operate one large area than several small ones.

Shape of the area is also related to the use attractions and needs of the development. For example, a large picnic area or camping development is most efficient in shape as a square or rectangle several hundred feet in width in preference to a long narrow area less than one hundred feet wide. This is true because of savings in utility lines and the fact that your buildings have a useful radius equal in all directions. However, a narrow strip may be very practical for small developments, or to provide additional stream frontage for a fisherman's trail, or include scenic strips within the park unit.

(2) Adjoining Areas

The values of the site may be affected by the appearance of the adjoining lands, ownership and use of the land, and the utilities available there. For instance, a site adjoining other publicly owned lands such as a National Forest or a public road may be desirable, whereas a site next to an industrial plant might not. The utilities available nearby may provide a savings in the cost of extending electricity or water to the site.

(3) Topography

Topography is very important as to whether a site can be developed suitably. We need to check the elevation of the ground, degree and direction of slopes, drainage, rock outcrops, topsoil types and quality, as well as what the subsoil is. Nearly level areas are required for parking areas, beaches, camp areas, ballfields, etc. We will need to determine how much the topography limits useful area or what the costs of earth moving or grading might be.

(4) Water

In addition to its recreation interests, water is needed for drinking, sanitation, and irrigation. The quantity and quality of water sources is often a big factor in site selection. The area may provide good springs or opportunities for a well or be near to municipal water lines. The cost of providing water to the use areas needs to be figured.

(5) Plants

The existing plant growth is another factor that calls for thorough checking. We look at the trees as to their size and interest, the amount of shade they provide, how healthy they are, the problems of maintenance, fire hazards, wind throw, etc.

An area may have been partially logged and requires removal of stumps or clean up. Some shrubs may be of good landscaping value, other areas of brush may need to be cleared. The extent and location of open areas is noted.

(6) Exposure

How much will wind, rain, sun, and temperature affect the use? An area sheltered from strong winds may be highly desirable for recreation use. The direction, velocity, and season of these winds should be noted as to just how they will affect the recreation use and your maintenance and operation of the area. Lack of rainfall and extreme temperatures may call for the development of shade and irrigation of a site to make it usable. Sometimes, you have a choice of exposure for sites where the topography or trees of the area will provide afternoon shade, morning sun, or whatever may be most desirable for the use intended.

(7) Improvements

Some areas may already have been improved and contain buildings, roads, utilities, cleared land, etc., which may raise the cost of the site. If they can be used in the recreation development or resold, this amount can be discounted from the costs; if not, their removal adds to the costs.

(8) Access

Access is examined both as regards to the routes to the site and to the various recreation interests within the area. The type and condition of roads leading to the area will greatly influence the usefulness of the sites. Safe and convenient access points are needed to handle public traffic. Some recreation interests within the site may be almost inaccessible due to steep ground or other barrier such as a roadway or river which divides the property.

(9) Undesirable Features

There are so many features which can be undesirable that it is difficult to list all of the possibilities. Few sites are without them and, naturally, we prefer the sites with the fewest serious faults. The examiner should be aware of and take note of some of the following:

(a) Physical barriers: Cliffs, flooding, swamps, bodies of water, ditches, dunes, blow sand, slide areas, etc.

(b) Hazards: Traffic, fire, falling tree branches, water currents or wave action, deep holes, insects, snakes, ticks, poisonous plants, animals, cliffs, hunting, water pollution, high voltage lines, etc.

(c) Annoyances: Noise (trains, airplanes, automobiles, trucks), dust, water algae, turbidity, pollen, aquatic weeds, smoke, fumes, etc.

(d) Others: Objectionable views, existing structures not adaptable to park use, stumps and logging debris, driftwood, nearby liquor dispensing establishments, lack of usable area, small size - no expansion space, shade lacking or limited, exposure protection lacking, erosion, reservoir water level fluctuations, lack of water and utilities, poor access, objectionable easements or land use, cattle grazing encroachment, items required for maintenance but not necessary to increase enjoyment of area, highway relocation, lack of traffic controls, etc.

It is well to remember that many of these will not seriously limit use and can be corrected or controlled. A sand dune can be stabilized, a swamp drained, mosquitoes sprayed, pollution reduced, etc. The added cost of correcting these features may be in the public interest other than just for the park use itself.

(10) Potential Developments

The planner will need to determine how well the site is adapted to the kind of recreation use we seek to provide. What portions of the site are suited to parking area, picnic use, camping use, active games, natural area, roads, trails, etc.? Notation can also be made on the additional features of interest which can be enjoyed by the public over and above the basic needs. For cost estimate comparison of sites, it will be necessary to prepare an overall plan of the circulation of roads, basic facilities, and development work needed.

(11) Maintenance and Operation

A part of the figuring of the development will be how the site is to be maintained and operated. Will additional personnel, housing, and new service equipment be required? Or is the area located so that existing nearby crews can be utilized?

(12) Costs

A preliminary estimate of the costs of providing equal facilities at one area in comparison with another site is required to bring out how much the various site conditions

affect the overall cost. This cost comparison will need to include the acquisition of land, development of the site, and its maintenance and operation.

c. Present and Future Public Use

How useful and important will the site be to the public? In order to estimate attendance and other benefits, we check the population, the economy, how good the access is, tourist travel, the degree of interest in the recreation attractions provided, how badly the site is needed, and the benefits the development might create.

(1) Population and Economy

Location of the site with relation to population centers will determine how many people are served by the area. There is a definite relationship between the number of people close to the area and the attendance, but it is only one factor. Figures on the rate of growth of population will also give us a clue on future needs within a given area.

Recreation interests of the people, how much time and money they have, and what parts of the state they like to visit will also affect the use.

(2) Access and Traffic

Convenience of access to the recreation site greatly affects the use. Good access from main travelled routes increases the opportunity for heavy use. Sites which are difficult to reach are apt to have a very limited use. The amount of existing traffic on roads can serve as a guide to the potential attendance. The State Highway Department publishes a traffic flow chart of the main highway routes which is helpful in comparing road traffic and routes of heavy tourist travel.

Although some sites may be remote today, they may be opened up by new routes in the future. Improved access routes and transportation are continually extending the distance which people will travel to find recreation.

(3) Recreation Attractions

Another factor in figuring potential attendance is the nature of the recreation attractions. What is the quantity and quality of interests at the area? Are they popular types of recreation? How do the facilities compare with other areas? Will the public have such a pleasing experience at the area that they will want to revisit it again or to tell others about it?

A site with a variety of interests for people of all ages and providing popular activities has a distinct use advantage over an area of limited interest.

(4) Need

What is the need for recreation in this area? How badly and how soon is it needed? Perhaps there is another public agency which has plans to develop a site nearby. In such a case, your development may be unnecessary or can be combined in such a manner that one helps the other.

(5) Other Benefits

Sometimes we do not recognize the full value of a recreation development. A good park can stimulate the economy of an area by raising the adjoining land values, attracting tourists and holding them in an area long enough that they spend more money in the region, and increases the money spent on recreation equipment, supplies, etc.

Also, the improvements which might be made to an area in the form of improving and maintaining roads or scenic values, protecting watersheds, stabilizing sand dunes, draining swamps that breed mosquitoes, etc., can have value to the surrounding area as well.

G. Potential Non-Urban Recreation Area Inventory

1. Purpose of Inventory

In recreation planning and development, as in all resource management functions, it is necessary to accomplish an inventory to provide the planner with basic data on potential recreation areas available for development. The initial portion of such an inventory was completed in June 1961. This inventory will serve several purposes, which include:

a. Provide Bureau offices with a systematic record of present and potential recreation areas under its administration.

b. Provide a firm basis for Bureau recreation planning and development.

c. Provide appropriate state or local governmental agencies with summary data for their use in formulation of recreation plans and programs.

2. Responsibility for Inventory

All employees should maintain an awareness for potential recreation areas during the course of their duties and have the responsibility for noting and reporting these areas. The Districts, as the basic planning units, are responsible for initiating and maintaining records of areas reported.

3. Use of Standard Form 4-1427 - "Potential Non-Urban Recreation Areas Inventory" (Illustration No. 4)

All potential recreation areas and sites will be noted on this form. The forms, when completed, will be distributed one copy to District files and three copies to the State Director. One of the three copies for the State Director will be forwarded to the National Park Service for their comment and recommendations.

If at the time the report is initiated there is incomplete information regarding some items, the report should be submitted showing the information which is readily available. As additional information is acquired, the incomplete reports will be amended to reflect current information.

Periodically, the Park Service will forward their recommendations for areas inventoried. Upon receipt of this information, it will be posted to the report form in both the District and State Director's files.

This inventory data, both in the Districts and the State Office, will be available for use by state and local governmental recreation agencies, in their recreation planning.

The following instructions will be used in completing the report form:

a. Item 2

In identifying the type of area, we will use the National Park Service definitions to obtain uniformity. Do not be misled by the identifying title assigned in Item 3. Indicate the one category which best fits the area based on the following definitions:

(1) Park - "A relatively spacious area of outstanding scenic or wilderness character, oftentimes also containing significant historical, archeological, ecological, geological, and other scientific values, preserved as nearly as possible in their original or natural condition, and providing opportunity for appropriate types of recreation where such will not destroy or impair the features and values to be preserved. Commercial exploitation of resources is prohibited."

In the use of this designation, place the emphasis in evaluation on the quality of the natural features rather than size of the area.

(2) Monument - "Area usually limited in size, established primarily to preserve objects of historic and scientific interest, and places commemorating important persons or historic events. The only facilities usually provided are those required for the safety and comfort of the visitors, such as access, parking, water, sanitation, interpretive devices, and sometimes facilities for picnicking and other recreation facilities."

If this designation is used, describe fully in Item No. 10 the nature of the historical or scientific features of the area.

(3) Recreation Area - "Area selected and developed primarily to provide non-urban outdoor recreation opportunities to meet other than purely local needs, but having the best available scenic quality. Hunting and some other recreation activities not usually associated with parks may be permitted. Commercial exploitation of resources is usually prohibited."

This term implies a suitability for a recreation activity which is more than sightseeing, although it ordinarily will have scenic qualities as well. Many public land areas will therefore fall in this class. Despite this designation, they will be regarded as suitable for state, county or other local park systems.

(4) Beach - "Area with frontage on the oceans, lakes and streams designed primarily to provide swimming, boating, fishing and other waterfront activities. Other coastal areas acquired primarily for the scenic and scientific values, such as Point Logos Preserve in California, are included in the classification 'parks'."

(5) Wilderness - "Area established to preserve primeval environment and devoted solely to such wilderness types of education and recreational uses as are consistent with the maintenance of the natural character of the area."

(6) Forest - "Area established and managed primarily for timber production and watershed protection. Recreation developments and use are incidental to the major purposes."

This term is generally too extensive for our use. Inventory reports will normally involve only those portions of forest areas that are suitable for intensive recreational use, i. e., camping, picnic, recreation or beach areas. The term "Forest" is applicable when designating areas such as scenic corridors along major streams, roads, etc.

(7) Wayside - "Relatively small area along highways selected for their scenic or historical significance and providing opportunity for the traveler to relax, enjoy a scenic view, read a historic marker, or have a picnic lunch. These areas should be administered by a highway department; however, the larger and more scenic waysides may sometimes be administered as units of state park systems."

The portion of this definition dealing with state administration does not necessarily apply to Bureau lands.

(8) Nature Preserve - "Area often limited in size, established for the purpose of preserving distinctive natural communities of plants and animals, for their scientific and esthetic interest."

(9) Wildlife Refuge - "Area where the primary purpose is protection of certain but not all species of wildlife. Facilities for various types of recreation use are sometimes provided."

(10) Other - If this term is used, it will require a detailed explanation of the area under Item No. 14.

b. Item 5

Include appropriate subdivisions when giving the legal description of the area.

c. Item 9

Following the type of road surface, place in parenthesis a notation as to control of the road; for example: "Dirt (Public or Private Control)".

d. Item 11

The intensity of present recreation use is to be gauged in relative terms considering size of area, facilities, and number of people. So considered, if the area seems crowded, the use would be considered heavy; if the area accommodates the people present quite comfortably, the use would be considered moderate; and if the area seems quite empty, the use would be light.

e. Item 13a

Explain any special considerations used to determine the feasibility of the area.

f. Item 13b

This item refers to "appropriate" type of improvements rather than "recommended". Use general classes of improvements and not specific details of the development. Also, include recommendations as to Land Tenure arrangements (sale, lease, or BLM development) for the lands involved.

g. Item 14

In this section, explain fully any problems which may hinder proper development, i. e., lack of or difficulties in developing water supply, etc. If road to the area has been shown as private control in Item 9, it will be necessary to state who controls the road under this item.

h. Item 15

The evaluation, comments, and recommendations should be in the following sequence: District Office, State Office, National Park Service, and state or local agency.

H. Actions Subsequent to Inventory

1. Land Classification

Areas inventoried as having potential recreation value will be screened with the intent of classifying those areas where Recreation and Public Purposes are deemed to be the highest and best use. Such classifications will serve to segregate these lands from private acquisition under many of the public land laws.

This screening will be accomplished by State Office personnel, based upon the inventory forms and additional information supplied by the Districts. The procedures for classifying lands identified as having potential recreation values are as follows:

a. Notice of the location and description of the attributes of such lands for recreation purposes will be given to state and local government agencies and the National Park Service, together with a request for an indication of interest in use or acquisition or recommendations for use and management.

b. Upon receipt of this information and completion of such additional investigations as may be necessary, one of the following actions will be taken:

(1) If the lands are believed proper for public recreation use and proper for sale or lease to a local government agency under the Recreation and Public Purposes Act, and a qualified application filed, the land will be classified for such sale or lease.

(2) If the lands are believed proper for public recreation use and proper for sale or lease to a local government agency, but no application filed, the land may be classified as authorized by Section 7 of the Taylor Grazing Act and Recreation and Public Purposes Act on the Bureau's motion.

(3) If the lands are believed to be more valuable for multiple purposes, including public recreation use, the lands will be retained in Federal ownership. If the lands are recommended for indefinite retention in Federal ownership, segregation of the lands for public recreational purposes should be instituted under the provisions of 43 CFR, Part 295.

2. District Actions

The progression of planning on the District's following the initial phase of the recreation inventory should follow the general pattern outlined below:

a. Continue to note and compile data on additional potential recreation areas which may have been overlooked during the initial phase of inventory. To intensify and complete the inventory, the Districts should study BLM lands on a tract-by-tract basis as time and personnel become available. Such studies can logically be combined with other resource inventories being accomplished on BLM lands.

b. Screen inventory forms and establish a priority listing of areas on which actual developments will be required. Such a listing will provide the basis for orderly development of our recreation program.

c. Make field examinations of each area in accordance with the priority list. During these field examinations, it is recommended that information called for on the "Recreation Area Report" (Illustration No. 5) be compiled. The general cost estimates derived from these examinations will provide background data for Program Plans. It is generally advisable to obtain photographs and make sketch maps of the area to aid in office planning.

d. Formulate a five-year development program based upon current and potential recreation needs. These programs will provide the basis for development of program plans and yearly work plans. This five-year program should be recorded on Table 1 of the Special Programs Section of the Lands Plans Books.

e. As programs become operational, develop specific site plans as discussed in Part II, Chapters 1 and 2, of this handbook.

f. Upon classification of recreation areas by the State Office, these lands should be recorded on Table XIII - Land Use Restrictions - of the Land Management Atlas. The timber on classified lands will normally be placed in the Regulated-Deferred class and not deducted from the allowable cut. The Regulated-Deferred class is defined: "Those lands and the timber thereon, subject to a deferred sequence of cutting due to a classification, policy or administrative action having a partial restrictive effect on the cutting of timber. Since these lands and the timber thereon are conditionally available for harvest, the volume and acreage will be included in the base used in the computation of the allowable cut."

I. Recreational Access

It is necessary for the Bureau to provide public access to all of our recreation sites and areas. To the extent that funds are available, the Bureau will take the initiative in acquiring rights-of-way needed for access to BLM lands which are valuable for public recreation purposes and in constructing and maintaining multi-purpose roads to serve such lands.

In acquiring rights-of-way, it will be necessary, generally, to negotiate permanent exclusive easements. With this type of easement, the Bureau will be able to expend appropriated funds for construction or improvement of existing roads. As funds become available, the costs of easement acquisition should be programmed at least one year in advance of planned site development. This will allow clearance of access problems prior to the actual site development.

It must be kept in mind that tracts not necessarily having potential recreation value, but providing key access to potential recreation areas, must be so designated and held to provide this access.

J. Measurement of Recreational Use

Through records reflecting actual use of recreation sites, we will be able to determine trends which will help determine areas where facilities appear adequate, areas where expansion is needed, or areas which may be abandoned or relocated. There are three general methods of recreation use measurement which should be used at BLM recreation sites. These are as follows:

1. Self Counting: On BLM sites, self counting will be in the form of registration on the Recreation Site Register. A copy of this form is shown on page 63, Part II, Capter II, of this handbook. Registration desks will be established in a convenient location on each site. This type of data may be partially unreliable because of unrecorded visits, partial records, misinformation, and vandalism. Periodic checks may be used to minimize some of these shortcomings.

2. Direct Counting: This will be in the form of direct counts on each site by Bureau personnel. At each count, it is necessary to record the date, time, number of people by activity (camping, picnicking, swimming, etc.), number of cars and number of trailers. District and maintenance personnel should make such a count each time they are at the site during the normal course of their work. It is recommended that such a count be made on two weekends during the normal use season.

3. Indirect Counting: This will normally be accomplished by use of portable, pneumatic traffic counters. As these devices become available, they should be used at each site for two seven-day periods during the use season. Sample counts must be taken during use of these counters to determine average number of occupants per vehicle and number of car-trailer combinations.

BLM Contract No.
14-11-0001-_____

MEMORANDUM OF UNDERSTANDING

Between the Bureau of Land Management,
United States Department of the Interior
and _____, Oregon

This Memorandum of Understanding, made and entered into this _____, by and between the State Director, Bureau of Land Management, United States Department of the Interior, hereinafter referred to as the Bureau, and the County Court, County of _____, Oregon, hereinafter referred to as the County, WITNESSETH, that:

WHEREAS the Bureau and the County are equally interested in providing adequate recreation site development and facilities to properly serve the general public; and

WHEREAS the County is currently engaged in a program of recreation site development and maintenance and has the necessary equipment and personnel to perform the expert services required; and

WHEREAS it is to the advantage of the Bureau to capitalize on the experience of the County and their equipment and personnel, especially since the County is required to maintain their recreation lands adjacent to O&C lands involved; and

WHEREAS, to do an effective job on both County and O&C lands, only one source of labor and equipment should be utilized to incur the least overall expense;

NOW THEREFORE, since it has been determined to be to the mutual advantage of both the Bureau and the County to cooperate in developing the North Fork of Eagle Creek recreation site located in portion of W½NE¼ and E½NW¼ T. 3 S., R. 4 E., Sec. 11, W.M., as a public camping area which it is contemplated will be developed by June 30, 1962. Upon completion of the development phase of the project, the County agrees to assume all further maintenance of the site with no reimbursement for maintenance from the Bureau. The parties agree as follows:

1. The County will furnish all necessary materials, equipment, labor and supervision necessary for the recreation site development, including installation of standard facilities except tables, signs and well and pump in accordance with the site development plan prepared by the National Park Service and mutually approved by the Bureau and the County.

2. The Bureau will furnish ten picnic tables required for the project FOB its contractor's plant, Portland, Oregon. The Bureau will furnish necessary entrance and interior routed signs FOB _____ _____. The Bureau will furnish an adequate well and pump for the site.

3. The Bureau, through its representative, the District Manager, _____District, will cooperate in the project development to the extent possibly by furnishing necessary technical assistance to adequately protect and provide for proper management of the area involved.

4. This agreement shall be for the period beginning with date stated above through June 30, 1962, with the understanding it may be renewed by mutual agreement subject to availability of Bureau funds and the apparent necessity to continue the project through cooperative efforts of both parties.

5. The Bureau will pay to the County for salaries and other expenses (excluding purchase of capitalized equipment) directly involved for work done under the terms of this agreement upon receipt of properly itemized invoices, provided that the aggregate total of such invoices does not exceed the amount established elsewhere in this agreement or any subsequent renewal.

6. The Bureau authorizes the sum of $4,000 for the purposes cited in this agreement during the fiscal year 1962.

7. This agreement or any renewal thereof does not obligate or purport to obligate Bureau funds not appropriated and payment for any service rendered is contingent upon Congressional appropriation of funds therefor.

8. Either party may cancel any or all part(s) of this agreement upon 30 days written notice preceded by a consultation of the County and the Bureau outlining the necessity therefor.

Failure to renew will constitute cancellation.

9. Standard Form No. 32 as amended (Clause 18), General Provisions, copy attached, forms a part of this agreement or any renewal thereof.

10. Any renewal shall specify the period and the amount of Bureau funds available for obligation and payment to the County during the designated period provided that a renewal may be amended to provide for an increase or decrease of funds as determined to be advantageous to the Bureau.

11. All major modifications to this agreement, renewals or amendments shall bear the written concurrence or approval of the County Court.

12. This agreement is entered into by the Bureau pursuant to the authority contained in Public Law 86-649, 86th Congress, Sec. 102.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as the day and year first above written.

_____ COUNTY, OREGON

By_____

By_____

THE BUREAU OF LAND MANAGEMENT

By_____
State Director - Oregon

Clause 18 of Standard Form 32, General Provisions (Supply Contract), and/or Clause 9 of Standard Form 19 (Construction, Alteration or Repair), whichever is applicable, is hereby deleted in its entirety and the following clause substituted therefor in accordance with Section 301 of Executive Order No. 10925:

Nondiscrimination in Employment

In connection with the performance of work under this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective-bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under this Nondiscrimination clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(e) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Nondiscrimination clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(g) The Contractor will include the provisions of the foregoing paragraphs (a) through (f) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: PROVIDED, HOWEVER, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

RECREATION AREA MANAGEMENT AGREEMENT
between
THE UNITED STATES OF AMERICA
and
_____, OREGON

For administration of certain revested O&C lands
for recreational purposes

On this _____ day of _____, ____, THE UNITED STATES OF AMERICA, through the Bureau of Land Management, hereinafter referred to as "BLM", acting in pursuance of the Act of Congress approved August 28, 1937 (50 Stat. 874), and the Act of July 14, 1960 (74 Stat. 506), and _____, hereinafter referred to as "County", acting in accordance with ORS 203.120 (11) and ORS 275.350;

DO HEREBY AGREE that the following principles shall govern the administration of recreational resources and facilities in the _____ RECREATION AREA as shown on Exhibit "A", which is attached hereto and made a part hereof:

1. The County, for recreational purposes, may use those certain O&C lands as shown on Exhibit "A" hereof. Such use shall be subject to the following exceptions and reservations:

a. Any future rights which have attached before the date of this agreement. Rights-of-way or other similar rights on the lands covered by this agreement will be granted by BLM only after consultation with the County.

b. The right of the officers, agents, employees, permittees, and licensees of the United States at all times and places to have full ingress to, passage over, and egress from all of said lands for the purpose of carrying on operations of the United States.

c. Consistent with the recreational objectives of the area, it is further understood that BLM will retain all resource management jurisdiction over the lands which are included with the area covered by this agreement, and the United States will have the right to retain the revenues from such management. BLM shall not, without agreement with the County, execute any negotiated contract for sale of timber from said lands or advertise any timber for sale from said lands.

2. Basic recreation facilities within the area shall be constructed and maintained by the County in a manner satisfactory to

BLM. The County shall prepare plans and time schedules for use and development of the area and shall submit such plans and time schedules for review and approval by the BLM. The plans and time schedules must be in sufficient detail to permit effective enforcement by enabling clear showings of nonperformance if necessary.

a. The County may construct, maintain, and operate roads, trails, power lines, sanitation facilities, water supplies, communications, camp and picnic grounds, and other facilities and services incident to recreational uses.

b. The County will maintain the lands open to use by the public for recreation purposes without discrimination or favor.

c. The County will make no more than a reasonable charge for the use of facilities on the land (whether by concession or otherwise) and will charge no more for entrance to the area than is consistent with similar charges made at Federal installations, all charges to be subject to review and modification by the Secretary of the Interior, under due process procedures.

d. The County may issue and administer licenses and permits to persons or associations for the purpose of regulating the privileges to be exercised. The County may also enter in concession contracts under which commodities and public services are made available to the public in the area. All such licenses, permits, and contracts, however, shall be submitted to BLM and approved before issuance, and all instruments used for such purposes throughout the area shall be subject to the exceptions and reservations set out in Section 1 of this agreement and shall contain language recognizing the purposes of _____ _____ Recreation Area. This authority does not include the authority to issue home site permits or licenses.

e. The County shall, within the limits of its jurisdiction, make and enforce such rules and regulations for the use of the area as are necessary and desirable to protect the health and safety of persons using the area; to protect plants, fish and wildlife in the area; to preserve the scenic, scientific, aesthetic, historic, and archaeological resources of the area; and for the preservation of law and order in the interest of public safety.

f. In the event the County issues licenses, permits or concession contracts, the County shall submit to BLM not later than March 1 of each odd-numbered year during the term of this management agreement, or within one year of the termination of this agreement for any reason, a report of its revenues during the preceding biennium, from licenses, permits and concession contracts, and its expenditures of such receipts for the administration of the area described in this management agreement. At such times, the County shall transfer to BLM any surplus of such receipts over such expenditures.

g. The County shall not do or knowingly suffer or permit to be done by others anything by which any persons may be endangered or injured in their use of the camp area included in this management agreement. The County shall save the United States harmless from any claim on account of personal injury or property damage by reason of anything done, permitted to be done or knowingly suffered or omitted to be done by the County in its exercise of the privileges granted by this management agreement. Nothing herein contained, however, shall be construed as a waiver by the County of its sovereign immunity.

h. The County shall require all contractors, permittees, and licensees to carry such public liability insurance as is customary among prudent operators of similar businesses under comparable circumstances.

i. Nothing in this agreement shall be construed or interpreted as authorizing the County, its agents, or employees, to act as agent or representative for or on behalf of the United States, or to incur any obligation of any kind on behalf of the United States.

j. In the development and administration of the area, the County shall take precautions to require its contractors, permittees, and licensees to take precautions to prevent soil erosion and the destruction of vegetation and improvements by fire.

3. The County shall not assign this management agreement or any interest therein without written consent of BLM, but the provisions of this management agreement shall apply to and bind the assigns of BLM and the assigns of the County.

4. The County agrees to submit to the BLM by June 30 each year an "Annual Summary of Facilities and Uses" on forms furnished by the BLM.

5. In connection with the performance of work under this agreement, the County agrees as follows:

a. The County will not discriminate against any employee or applicant for employment because of race, creed, color or national origin. The County will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The County agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the County setting forth the provisions of this nondiscrimination clause.

b. The County will, in all solicitations or advertisements for employees placed by or on behalf of the County, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

c. The County will send to each labor union or representative of workers with which there is a collective bargaining agreement or other contract or understanding, a notice, to be provided by the County contracting officer, advising the said labor union or workers' representative of the County's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. The County will comply with all provisions of Executive Order No. 10925 of March 6, 1961, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

e. The County will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to the books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations and orders.

f. In the event of the County's noncompliance with the nondiscrimination clauses of this agreement or with any of the said rules, regulations, or orders, this agreement may be cancelled in whole or in part and the County may be declared ineligible for further Government agreements in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

g. The County will include the provisions of the foregoing paragraphs a. through f. in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, so that such provisions will be binding upon each subcontractor or vendor. The County will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the County becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the County may request the United States to enter into such litigation to protect the interests of the United States.

6. The term of this management agreement shall be for a period of twenty (20) years from the date hereof, unless sooner terminated, and may be renewed for additional periods.

7. This management agreement shall terminate and all rights of the County hereunder shall cease:

a. At the expiration of the term as provided in Section 6.

b. At the expiration six (6) months after service of written notice by any party hereto of its desire for termination of this management agreement.

c. Upon the failure of the County to observe any of the conditions, exceptions or reservations set out in this management agreement, the BLM shall give written notice to the County of the obligations that are in default or the provisions of the management agreement that have been violated, and the County shall have ninety (90) days in which to correct the default or violation. Upon the failure of the County so to correct such default or violation within 90 days, this agreement may, at the option of BLM, be terminated.

8. Any notice required or authorized by this management agreement shall be deemed properly given if mailed by certified mail to the State Director, Bureau of Land Management, 710 N. E. Holladay, Portland 12, Oregon, on behalf of BLM; and to the Board of County Commissioners, _____County, _____, Oregon, on behalf of the County. The designation of the person to be notified or the address of such person may be changed at any time by written notice.

9. For a period of ninety (90) days after termination of this agreement, or such longer period as may be determined by the BLM to be reasonable, the County and its licensees and permittees shall have the privilege of selling or removing all improvements on the premises installed or constructed by the County at its sole cost or expense; otherwise, after the expiration of such period of time, the title to such improvements shall vest in the United States.

10. No Member of or Delegate to Congress or Resident Commissioner, and no officer, agent, or employee of the Department of the Interior shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this agreement if made with a company or corporation for its general benefit.

IN WITNESS WHEREOF, the parties hereto have hereunto subscribed their names as of the date first above written.

_____COUNTY, OREGON THE UNITED STATES OF AMERICA

_____ RECREATIONAL AREA
MANAGEMENT AGREEMENT
between
THE UNITED STATES OF AMERICA
and
_____

Pursuant to the Act of Congress approved August 28, 1937 (50 Stat. 874, 43 U.S.C. 1181a-j, 1958), and Acts amendatory thereto, and the Act of July 14, 1960 (74 Stat. 506, 43 U.S.C.A. 1363), the Secretary of the Interior does hereby agree with _____ _____, an Oregon corporation, that the public land known as _____ Recreational Area described on Exhibit A shall be jointly developed for recreational purposes by the Bureau of Land Management and _____.

_____ does hereby agree to furnish materials and supervise construction of picnic and park facilities in cooperation with the Bureau of Land Management in accordance with the plans and specifications shown on Exhibit B, which is attached hereto and made a part hereof. _____ shall maintain the facilities placed upon said area for a period of five (5) years, provided, however, that the Bureau of Land Management shall continue to exercise administrative jurisdiction and control of such public land and shall manage, consistent with the recreational objectives of the area, all other values of the lands, including the right to retain the revenues from such management.

The public land covered by this agreement shall remain open to use by the public for recreation purposes without discrimination or favor.

_____ does hereby agree to hold harmless the United States, its officers, agents and employees, from any and all claims for personal injury or property damage resulting from acts or omissions of _____ in the performance of this agreement. Nothing in this agreement shall be construed or interpreted as authorizing _____ to act as agent or representative of the United States or to incur any obligation of any kind on behalf of the United States.

_____ agrees to provide equal employment opportunities for its employees in accordance with Executive Order 10925, dated March 6, 1961 (26 F.R. 1933). Section 301 of said order

is attached hereto as Exhibit C and is made a part of this agreement by reference. The term "contract" as used in Exhibit C shall be deemed to refer to this agreement, and the term "contractor" shall be deemed to refer to _____.

DATED this _____day of _____, 19____.

SECRETARY OF THE INTERIOR

_____

_____

_____ .

_____
Title

EXHIBIT B

PLANS AND SPECIFICATIONS

For the Development of _____
Recreational Area

The Bureau of Land Management has developed a program of utilization for the area covered by this agreement. Such program is a part of the overall plans for multiple purpose use of public lands of the United States. It is hereby concluded that there is a current acute need for more public recreational facilities in the State of Oregon and particularly in _____County, Oregon. The use of the recently completed recreational development by the Bureau of Land Management in the Rock Creek drainage evidences a public need for more recreational facilities.

It is the purpose of the Bureau of Land Management to utilize and develop such recreational sites as are available to the public whenever means of such development are present. It is the object of this development to provide park and recreational facilities on this site by the construction and maintenance of permanent facilities so as to permit the people of the State of Oregon to enjoy the natural, scenic, scientific, aesthetic, historic and archaeological resources of this area.

_____ will participate with the Bureau of Land Management and the _____ in the development of this site. The Bureau of Land Management _____ District Office Manager shall furnish detailed specifications and plans for the construction of signs, roads, trails, bridges, power lines, water supplies, sanitation facilities, picnic grounds, and other facilities and services incident to recreational uses. The location of such facilities are shown on Exhibit A attached hereto.

Care shall be taken at all times to avoid soil erosion, creating fire hazards, damaging fish and wildlife, and causing personal injury to persons using the area.

When appropriated funds become available, the Bureau of Land Management shall erect the sign, complete the south parking area, complete camp units 4 and 5, and construct the facilities south of the foot bridge, all as shown on Exhibit A. All other facilities shown on Exhibit A shall be constructed by _____.

No charge shall be made to the public for the use of such facilities without the approval of the Bureau of Land Management.

_____ shall forthwith commence the construction of the facilities for the development of this site and shall complete the same within _____years from the date of this agreement.

EXHIBIT C

PRESIDENTIAL DOCUMENTS, Title 3--THE PRESIDENT, Executive Order 10925 Establishing the President's Committee on Equal Employment Opportunity

"* * *

PART III--OBLIGATIONS OF GOVERNMENT CONTRACTORS AND SUBCONTRACTORS

SUBPART A--CONTRACTORS' AGREEMENTS

"Section 301. * * *

"'In connection with the performance of work under this contract, the contractor agrees as follows:

"'(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

"'(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

"'(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

"'(4) The contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

"'(5) The contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

"'(6) In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled in whole or in part and the contractor may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, and such other sanctions may be imposed and remedies invoked as provided in the said Executive order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

"'(7) The contractor will include the provisions of the foregoing paragraphs (1) through (6) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.'"

Form 4–1427
(October 1958)

SAMPLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

POTENTIAL NON-URBAN RECREATION AREAS INVENTORY

3. Name *(or identifying title)* of area:

Lazy Days Park

1. State Oregon

2. Type of Area *(see instructions in Manual V)*
Park
Monument
Recreation Area XX
Beach
Wilderness
Forest
Wayside
Nature Preserve
Wildlife Refuge
Other

4. Administering agency and/or ownership status:
Bureau of Land Management

Vacant Public Domain

5. Location*
County Malheur

Township 34 S. , Range 44 E. , Section 2 - SW¼

and/or 23 miles NE (direction) from Nowhere, Oregon (nearest town)

6. Significance *(check one)* National ☐ State ☒ Local ☐

7. Acreage: Land 120
Water 40 *(acres)* or 1 *(miles of shoreline or river)*
Total 160

8. Quality of surface water:
Salt ☐ Brackish ☐ Fresh ☒ Clear ☒ Turbid ☐ Pure ☒ Polluted ☐
Temperature ☐ 50° to 70° Suitable for swimming ☒

9. Access: By road *(types of surface)* Gravel (Private Control)
(miles from what major highway)
By water
By other *(specify)*

10. Describe key natural features:

The key feature of this area is the 40 A. natural lake in the center of the tract. The lake supports an abundant supply of several species of fish. The land surrounding the lake is gentle and supports a fine stand of Ponderosa Pine.

11. Present recreation use *(check one)* Heavy ☐ Moderate ☐ Light ☒ None ☐

12. Present uses other than recreation:

Livestock Grazing, Timber Management

Attach 8 x 10" map, if available

(Continued on other side)

Illustration No. 4

13. Potential development:

a. Considering topography, sanitation, water supply, availability of land, access, etc., does development appear feasible? Yes [X] No [ ]
Explain:

Area contains all attributes of fine recreation development, except public access.

b. Recommended recreation developments:

Boat launching facilities, picnic area, campground, and sanitary facilities.

It is recommended that this tract be held for BLM development.

14. Special problems:

A Mr. Joe Doaks of Nowhere, Oregon, controls the road from this tract to the county road in Section 1, T. 34 S., R. 44 E. An easement from Mr. Doaks will be required prior to development of this area.

15. Evaluation, comments, and recommendations:

This area will make an extremely nice area when developed. We should proceed with development of this area with all possible speed.

16. Reference *(persons and records consulted in obtaining above information and location of maps and pictures)*:

District records.

Name of reporter	Office
P. Z. Smith	Nowhere
Date of report	**Date of field survey** *(if any)*
1/1/61	1/1/61

GPO 864491

_____
(Name)

RECREATION AREA REPORT

Date:_____

Legal Description, Size, Natural Boundaries

1. Legal Description: T.____R.____Sec._____Subdiv._____

_____

2. Width, Length, Shape, Acreage of Area:_____

_____

_____

3. Physiographic Boundaries:_____

_____

Area Description

1. Historical Background (If Applicable):_____

_____

2. Topographic Features:

   a. Terrain:_____

   _____

   b. Aspect:_____

   c. Drainage:_____

   d. Rock Outcrops:_____

   e. Bodies of Water:_____

   _____

3. Vegetation:

   a. Forest Cover Type and Condition:_____

   _____

   b. Ground Cover:_____

Illustration No. 5

c. Open Areas (Extent):_____

4. Exposure (Wind, Rain, Sun, etc.):_____

_____

5. Fish and Wildlife (Species, Stocking):_____

_____

6. Existing Land Use (Logging, Mining, Grazing, etc.):_____

_____

7. Existing Improvements (Buildings - Usability, Roads, Trails, etc.):___

_____

_____

Adjacent Area

1. Physical Description:_____

_____

2. Ownership:_____

3. Present Use:_____

_____

Access

1. To Area (Describe Route, Type of Roads, Ownership):_____

_____

_____

2. Access Problems (Type, w/who):_____

_____

3. Within Area (Type, Length, Width, Cost Planned):_____

_____

_____

Recreational Features

1. General Appearance: _____

_____

2. Features of Interest (Views, Water, Wildlife, Geological, etc.): _____

_____

_____

_____

Undesirable Features

1. Physical Barriers (Cliffs, Flooding, Windthrow, etc.): _____

_____

2. Hazards (Fire, Poisonous Plants, Traffic, etc.): _____

_____

3. Annoyances (Dust, Ticks, etc.): _____

_____

4. Other (Logged Areas, Water Fluctuation, Small Size, etc.): _____

_____

Development Possibilities

1. General: _____

_____

_____

2. Type of Development: _____

_____

_____

3. Cost Estimate: _____

_____

_____

_____

Expansion Potential

1. Amount of Usable Area: _____

_____

_____

Conclusions and Recommendations:

_____

_____

_____

_____

PART II
RECREATION SITE
DESIGN, DEVELOPMENT AND MAINTENANCE
GUIDELINES

C O N T E N T S

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I. RECREATION SITE DESIGN

A. Basic criteria for meeting recreation needs

Recreation as a use of leisure time is an essential part of Oregon living.

Inherent in the definition of recreation is enjoyment and happiness in freely chosen recreation opportunities. This requires that recreation be available, accessible, and enjoyable, with a variety of opportunities provided. Recreation is the entire experience at home, enroute, and at recreation areas.

Advance planning which considers all land uses is essential in meeting total needs for recreation. Where possible, recreation should be integrated with compatible nonrecreational land uses.

Low income and low mobility groups should have a suitable variety of recreation opportunities close to their community. Because of shorter trips enroute, this would provide for greater safety and more time at the recreation area. It also benefits the economy where the user lives, and protects the more distant recreation areas and open spaces which might otherwise require intensive developments.

When recreation is sought away from home, the quality of the entire experience is dependent upon pleasant travel to and from the recreation site. Traveling in itself has become the entire recreation objective of many. Recreation travel is one of the primary considerations that should determine routes and standards of roads. Adequate waysides and other scenic, historic, and recreation features help to assure that enroute travel enhances rather than detracts from the overall experience.

When recreation demands or recreation resources are conflicting or competitive, short-stay recreation should be given priority close in; and recreation involving a longer stay should be planned for more distant areas.

Grouping of compatible interests results in maximum use and economy. Minority as well as majority interests are problems to be solved for all zones of need; however, majority interests should be satisfied close to home.

Where important long-term values which require preservation of outstanding examples of landscape and history are at stake, these values should prevail. The government should first protect, provide, or assure the provision of recreation that is a right. Only secondarily should it employ its resources in privilege types or encourage nongovernment supplies.

B. Definition

1. Picnicking

Although many picnics are held informally along the roadside, at the beach, or on a grassy mountain slope, only picnicking at designated sites where adequate facilities are maintained primarily for that purpose is considered.

Picnicking is usually an accompaniment to other activities such as sightseeing, swimming, hiking, fishing, boating and recreational travel.

Picnicking is a social activity. The primary picnicking groups to plan for are the families with two to four children, although many small groups of adults also enjoy picnicking. While the average group is four to five persons, large groups also use picnic facilities, especially within urban areas. The most popular times for picnicking during the summer are holidays and weekends with Sundays leading in popularity.

The facilities should be placed so there is a proper balance of the three major types of units; those within communities, those outside communities (beyond the metropolitan fringe), and those along highways and roads. The family picnic unit should consist of a table and benches, cooking unit, with the water supply and sanitary facilities near by. Proper access and auto parking space are additional requirements. For large groups, the same type of facilities are needed but less space is allotted each picnicker. (Fig 1)

Picnic grounds within communities, designed to accommodate family groups, should be planned within the following limits: (1) not more than 16 picnic units per acre, but sufficient units so that each is used no more than 600 visitor-days each season, and (2) accommodations for a maximum of eight persons per unit with one parking space for each unit.

Picnic grounds for large organized groups within the community should be planned to accommodate 200 persons on each acre. One-third acre of parking space, accommodating 50 cars, should be planned for each group picnicking area.

Outside the community, the space allowed should be greater; eight units per acre is recommended, with one parking space for each unit. The maximum safe use of these areas should be calculated at 400 visitor-days per unit per season; beyond that, the facilities are subject to overuse.

For wayside rests, along major highways and routes, units should be planned at a maximum density of 16 to the acre with no fewer than four units at a single location.

The layout and design of picnic facilities should be made so that units can be shifted to new sites within the same area when detrimental effects to the soil and cover are evidenced.

2. Camping

Spending a night in the out-of-doors is a favorite form of outdoor recreation. Each night that a camper spends in a camp is counted as a "camperday." The most common camping party consists of a family with two or three children; the next most common group is a family without children or a small group of adults. Large organized groups rank third in importance with an average of 26 persons.

Oregonians are camping in some part of the state in all seasons of the year, but the heaviest camping season is from April through October, coinciding with the school vacation and favorable weather conditions in the mountains, by the sea, and other locations. The favorite for all groups is the weekend trip where they travel an average of about 75 miles, generally spending one night and two days in the vacation area. But the typical camping party to plan for is a vacationing family group of four persons who wish to camp with a tent or trailer over holiday weekends or regular weekends. The second favorite is the annual week-long vacation trip, driving an average distance of 175 miles to a camp site of their choice with adequate facilities for entertainment and fun for all ages. Or they may wish to camp with a tent or trailer while on a longer vacation trip to cook their meals and spend the night out-of-doors. Many families enjoy camping enroute for one or more nights during their vacation trip, especially if the days have been extra warm.

In the mountains and forested regions, tent camping is the most popular form. Along the beaches and in desert areas, trailers are almost as popular as tents. Statewide, about 25 percent of camping is done with a trailer. Much of the camping with tent or trailer is in undeveloped areas, either because better facilities are overcrowded or because an undeveloped area is preferred. Trail camping, favored particularly by hunters, fishermen, horsemen, and hikers is also popular, but to a lesser extent than other types.

A well-developed camp unit should provide space to park the automobile (and trailer, if there is one); and space in pleasant surroundings for tent or sleeping gear, with eating facilities including a table and stove, portable water and adequate sanitary facilities near by. (Fig 6)

If the camp is planned as a destination campground, a place to spend a vacation, there should be an opportunity to enjoy such other recreation as sightseeing, boating, swimming, hiking, riding, fishing and hunting, or just plain relaxing. Campgrounds at vacation spots (destination camps) should have no more than four camp units per acre with each unit designed to accommodate at least four persons, giving enough space for access, auxiliary facilities, screening, and a necessary buffer strip between camp units. Camp areas used primarily by the camper enroute can have as many as ten camp units per acre.

3. Riding and hiking

The most common hiking or horseback riding group is a family of four or five persons. Large groups such as clubs are in the minority. Most people who go on one-day rides or hikes go on Saturday or Sunday; weekdays are much less popular. Most overnight trips are planned for the weekend. On vacation trips, four or more nights may be spent on the trail. All types of trails are used including country lanes, road shoulders, fire truck trails, designated riding and hiking trails, river beds, and open country.

The trail is the important requisite for both riders and hikers. It should be in favorable terrain with good safe tread, reasonable grades, and rest areas. In the more populous areas, there must be provision made so that horseback riders and hikers are not in conflict with automobiles and trucks. Surveys show that for a ride of one day or less, riders will travel an average distance of 15 miles to gain access to the riding trail; whereas, for hiking, the party will travel an average distance of 30 miles. For weekend riding and hiking, these groups will travel an average distance of 75 miles to reach interesting trails. An estimated annual use in nonurban areas in Oregon is 8 to 15 man-days per mile of trail.

The greatest need for riding and hiking trails with facilities lies within the day-use range of the metropolitan centers. Such trail systems should be well planned, with numerous access points and interconnecting links so that either short or long trips can be planned and the trails used most effectively. At major access points, there should be equestrian assembly areas with ample parking, loading ramps, and corrals for stock. A well-planned system of overnight rest areas should gradually be provided, not more than 15 to 20 miles apart.

C. Outdoor Recreation Zones

Zones have been established to anticipate the recreation needs of most of the people, realizing that there are some who travel greater distances. Zoning provides that transportation time

will occupy a reasonable proportion of total time available, allowing ample time for activities at the destination.

Similarly zoning provides maximum benefits where benefits are dependent upon the volume and frequency of use.

Zone 1. At the dwelling, within the neighborhood (half a mile or less from the dwelling), and within the community (two miles or less from the dwelling).

Zone 2. An area within approximately 40 miles of the dwelling accessible on one-day round trip.

Zone 3. An area within approximately 250 miles of the dwelling, for overnight trips of one to three nights and vacations of four to nine nights.

Zone 4. An area extending beyond zone 3, for vacation trips of 10 nights or longer.

D. Recognition and Treatment of Recreational Areas

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
State Office
809 N. E. Sixth Avenue
Portland 12, Oregon

100.2d

August 23, 1960

Memorandum

To: District Managers, Oregon

From: State Supervisor

Subject: Recognition and treatment of recreational areas

You have been requested in the past to identify recreational areas on Bureau-controlled lands in your respective districts. The areas were subsequently screened by the Park Service. The identification should not be assumed to be complete at this stage. Members of your staff should be continually alert to recognize areas previously unidentified. You should consider stream and roadside corridors on major streams and main travelled public roads, picnic and campground sites, and points of interest - historical or natural history Recreational sites may have been overlooked or improperly appraised on the earlier inventory and in addition new sites will be located as roads are constructed into previously inaccessible areas. It is extremely important that we should recognize the recreational potential of sites well in advance of timber sale activities in order that the safeguards to insure protection may be taken.

The Area Administrator, in his memorandum of December 2, 1959, to the Park Service, copies of which were sent to you, gave the following policy in respect to harvesting timber on recreational areas:

> "Based on present conditions, it appears that it will be possible to harvest a portion of the timber on nearly all areas primarily valuable for recreational and scenic purposes and it is in the public interest to do so. For all such areas the policy will be to salvage the tree mortality whenever this can be done without appreciable damage to the recreation and scenic values. In addition, where topography and timber types permit, we expect to proceed with very carefully conducted light cutting on an individual tree selection basis followed by a reasonable clean up of logging debris and repair of soil disturbance. For recreation and scenic areas where selective cutting is not presently feasible, normally we will leave the timber stands intact and channel timber sales into mature stands where recreation is not considered a major use. Eventually

we anticipate a limited harvesting of the timber on recreation areas not adapted to selective cutting but not until techniques have been perfected which will permit logging without appreciable damage to recreational values."

I am very much concerned by the possible destruction of the recreational values of sites through imprudent timber harvesting and am therefore going to amplify the foregoing quotation with specific limitations. These limitations will amount to a deferment of cutting. Timber cutting in areas of intensive development or areas of potential intensive development such as picnic areas and campgrounds will be restricted to danger trees and dead or dying trees. Timber cutting in scenic corridors along roads, streams, lakes and reservoirs, will be restricted to danger trees and dead or dying trees. This restriction will apply not only to existing corridors, but also to those of recognized potential value.

In short, I want you to reinventory all the lands under your jurisdiction for recreational value and to take the necessary steps to protect potential sites and existing developments. This protection will consider not only timber cutting, but also road construction or any other activity likely to detract from a site's value. Sites identified are to be recorded in the Management Atlas and included in Land Management planning.

This should not be taken to mean that these tracts will be permanently withdrawn from timber production but that timber cutting will be delayed until such a time as we have the knowledge and the equipment to log in these areas with a minimum of damage and disturbance.

I am suggesting a conservative approach by avoiding timber cutting or other detrimental activities in areas of recreational potential by placing sales in other areas. When the time comes that a detailed appraisal of recreational needs and values can be made we may then return to those areas which do not meet the requirements. There is no second choice if the area is damaged, for the action is irrevocable.

Forest corridors should be established of conservative width and with due caution with respect to windfall. In many areas the threat of windfall may make them impractical. Logging activities are an essential part of industry and of our program. Sales areas need not necessarily be concealed from view and excessively wide corridors will not be established for that purpose. We are not attempting to dictate the width of forest corridors. This determination will rest upon the good judgment of the forester making the decision who will take into account the objectives of the corridors, topography, timber type, local considerations and other pertinent factors.

The timber cutting restrictions set out in this memorandum will have no significant effect upon allowable cut until the similar timber type has been exhausted. At that time we should be in a position to determine the extent of lands actually needed to meet recreational demands and to devise cutting procedures within such areas. In the meantime we shall have preserved for posterity irreplaceable recreational sites.

/s/ Russell E. Getty
State Supervisor

E. Policy in Access Roads

Properly located roads are essential to development, management, and use of the recreation resource.

1. All forseeable recreation requirements will be considered in planning roads with location and design to best serve recreation travel needs and provide access to important recreation resources.

2. Roads are to be located, designed, and constructed in a manner which minimizes disturbance of adjacent soil and vegetation and preserves esthetic values. (Right of way clearing will be held to the minimum consistent with technical requirements.) Special provisions are made as necessary to maintain attractive natural conditions along permanent roads. Where practicable, quarries, sand and gravel pits, construction camp sites, and temporary roads will be located out of sight of the permanent road.

F. State Recreation Plan

The Oregon State Recreation Plan is compiled by the state office. It consists mainly of a set of state maps illustrating graphically the recreational program concerning those major features in which the several districts, various state organizations, and the general public are most interested. It is an overall exhibit and explanation of BLM recreation resources and problems in Oregon. It consists indirectly also of the BLM manual, maps and pamphlets and the summary of recreation use and facilities.

G. District Recreation Plan

The district will be the recreation planning unit. A district plan includes inventories of existing recreation resources and improvements, designated areas needed for future use, programs for the administration and supervision of recreation use, and plans for necessary construction of new improvements. In addition, the district keeps necessary records of recreation use which are helpful in anticipating future requirements.

H. Recreation Site Designs

A recreation site is a tract of Public Domain, O&C, or CBWR land suitable for or developed for a specific recreation use or closely related uses to include camping sites, picnic sites, waysides, or hunter or fisherman camp sites. One recreation site could include facilities for camping, picnicking, and swimming, but these activities might be separated into different sites.

1. Site Design Policy

a. Detailed plans will be prepared for all recreation sites prior to any development, rehabilitation, or enlargement. These plans are called site designs. (Fig 2)

b. Foresters or Range Managers with the technical assistance of professional landscape architects (National Park Service cooperating personnel, BLM employees, or contract architects) will prepare all recreation site designs. After the district managers' review, the state director will approve recreation site designs.

c. Recreation site plans usually will show the specific location and design of all roads, parking, trails, improvements, structures, and utilities, if available. They will provide for proper utilization of the site, control of traffic, distribution of use, means of sanitation, protection of public safety, details of site fireproofing, and landscaping and possible planting.

d. Development of recreation sites will conform with approved site plans as to location of roads and other improvements. No changes in location will be permitted unless approved by the state director prior to development. This policy applies to site plans for all recreation sites developed either by public funds or by authorization under R&PP lease.

2. Basic Principles of Site Designing

Site designing is the arrangement of improvements in such a manner that the quality and atmosphere of the forest environment will be preserved for the enjoyment of the users. This requires special training, experience, and particularly the skillful application of the principles of landscape architecture adapted to forest environment.

Site designing of BLM recreation sites will conform to the following basic principles:

a. Site design provides for the preservation of natural features. Each site possesses at least one important natural feature which will be recognized and given special consideration in planning. Such a feature does not have to be outstanding or unique, but will be the most important one present. Typical examples are lakes, ponds, streams, springs, meadows, forest openings, rock outcrops, groves of mature trees, groups of trees and shrubs or grassy swales. Roads and other improvements will be planned, located, and designed to protect natural features and to enhance public enjoyment.

Natural features control the location and design of the improvements. Roads and other improvements are to be located around or away from natural features rather than across or within their boundaries. Usually 100 feet will be sufficient buffer between roads or other improvements and the natural features.

b. Improvements on BLM recreation sites will be located and designed to serve their intended function and at the same time be as inconspicuous as possible. As an example, central parking areas for picnic areas best serve the public when located as near to the entrance as possible. Approach roads will be short and direct and encroach as little as possible on the interior of the recreation site.

c. Improvements on a recreation site serving similar purpose will be grouped together. In camp and picnic areas, camp units will be grouped in one part of the site, and picnic units in another.

d. Existing vegetative cover will be protected. Site plans will indicate improvement location and design necessary for its protection. Acceptable improvements for this purpose are: (1) barriers which control automobile traffic, (2) parking spaces which limit the capacity of a site, and (3) broad and direct surfaced paths or walks to encourage pedestrian use.

e. The desirable limit will be determined for each site and planned accordingly. Overcrowding and loss of privacy will be prevented through the proper location of improvements.

f. Road systems within recreation sites will be planned or adjusted to fit natural conditions. When the road system is so planned, other developments will usually be in keeping with the natural features.

Examples of this relationship follow:

(1) Roads within recreation sites in valleys or canyons will be located at the toe of the steep slope to permit the greatest possible public use of gentle bottom lands.

(2) Roads along ridges within recreation sites usually will be located along one side of the ridge if it is narrow and there is a good view from only one side; or they may be located down the crest of the ridge if it is wide and has good views from both sides. In the former case, roads will be placed

on the side of the ridge away from the view. This leaves the greatest possible area for public use and enjoyment.

(3) Roads within recreation sites will be located to avoid especially large or unique trees, dense groups of shrubs, springs or small streams, or other interesting natural phenomena. Ordinarily roads will be on gently curving alignment. Seldom will long straight roads serve recreation objectives.

(4) Roads within recreation sites may be located to control use and protect natural features. For example, in the vicinity of lakes and streams, human use is heaviest on lands immediately adjacent to the edges of the water. To protect these lands from overuse and deterioration and to make them available for all, roads located about 100 feet from the water's edge will act as a barrier to the strip immediately adjacent to the water.

g. Road systems for recreation sites usually fall into one of four common types:

(1) Loop road: This is used when a site is wide and fairly extensive. The loops must not be too close together or appear to parallel each other. This system is particularly adapted to campgrounds.

(2) Dead-end road: When a site is long and narrow as on a ridge top, narrow valley, or bench along a steep slope, the single road with a turn-around at the end serves most satisfactorily. This system may be adapted to camping areas, picnic areas, or hunter camps.

(3) Single entrance and exit road: This system is best where traffic is to be concentrated in central parking areas. It permits traffic to move in and out of the site with the least difficulty and least encroachment on the recreation site. Roads for picnic grounds usually will be this type. Central parking areas developed along or in connection with these roads are desirable.

(4) Combination system: The road system for most large recreation sites will combine loops and single roads. The combination is frequently used when the site is extensive and topography irregular and is particularly adapted to large camping and picnic area combined-use sites.

3. Recreation Site Surveys

The base map upon which recreation site plans are prepared will be made from accurate surveys by plane table and alidade. For small areas of one to ten acres, a compass and tape survey will usually suffice.

Recreation site surveys will delineate:

a. Boundary of the recreation site.

b. Boundary of space usable for occupancy.

c. Access routes to the sites.

d. Natural features of the site to be considered for preservation or protection, as streams, lakes, groves of trees, views, meadows, natural openings, and unusual rock formations.

e. Important individual trees.

f. Top and toe of steeper slopes not usable for occupancy.

g. Topography, when slope is important in site planning.

h. Source of domestic water supply with difference in elevation between the source and the recreation development.

i. Reference point.

4. Recreation Site Design

Final drawings incorporating proposed designs for recreation sites will comply with the following standards and methods of handling.

a. Scale: Drawings will be made at as large a scale as practicable. Usually a scale of 1 inch to 40 feet will be large enough to show all existing features and proposed development in sufficient detail. Rarely will drawings smaller than 1 inch to 50 feet be satisfactory.

b. Size: Drawings for recreation site plans will conform to BLM standards. (Fig 3)

c. Legend: Plans for recreation sites will show existing features and proposed improvements by proper symbol from standard recreation site plan legend. (Figs 8,9)

d. Title Box: All recreation site designs prepared by the BLM will contain a standard title box. (Fig 4)

e. Delineation: Site designs prepared by the BLM will usually be drawn on tracing paper with pencil.

f. Approval: Site designs will be signed and dated in the title box by approving officers.

g. Correction of Final Tracings: After construction has been completed, original site designs will be revised to show the location of all improvements as built. Accurate location of underground improvements such as water and other lines is particularly important.

h. Filing of Corrected Drawings: Final prints of the corrected tracings will be filed in district managers' offices as part of district recreation plans. Tracings will be filed in state director's office.

5. Designing Camping and Picnicking Sites

Site designs for most camping and picnicking sites on public lands will be prepared by National Park Service personnel assisted by forestry and range personnel. The following procedure is recommended:

a. Reconnaissance: A preliminary study will be made of the site, with site survey map in hand, to determine:

(1) Extent of the site to be designed, its boundaries, and shape.

(2) Slope of the site, topographic breaks, and average percent of slope.

(3) Access routes.

(4) Natural features to be given consideration and preservation as indicated in Recreation Site Surveys.

(5) Best locations for camp and picnic units, considering level ground, shade, screening, and views. (Fig 5)

b. Entrance: The entrance from the main access road is the point at which site designing should begin. Access to a highway will be as flat as possible, at right angles to it, and afford sufficient visibility to permit safe entrance. A single entrance minimizes interference with through traffic on the main road and reduces administrative problems.

c. Roads: The general location of roads will be sketched on survey maps following basic principles, policy, road design, and adapting them to conditions as revealed by reconnaissance. Roads will be located to facilitate public use of improvements, protect natural conditions, provide traffic safety, and conform to standards for construction and maintenance. As a rule, the best road is the shortest one that will serve the purpose. When practicable, roads will be used as barriers between camp or picnic units and lakes or streams to discourage excess shoreline use. Parking space for picnic grounds may be centralized to a reasonable degree and need not be as close to family units as in campgrounds. (Fig 7)

Roads in picnic grounds should be short and lead rather directly to a central parking area. When campgrounds are planned for housetrailer use, campground roads will be designed to accommodate them.

d. Road flagging: The road location will be checked on the ground and adjusted to fit natural conditions and camp and picnic unit locations. Roads will be flagged or staked in their adjusted locations and corrections made on the site plan.

e. Camp and picnic family units: A standard camp unit is composed of one table, stove, parking spur, and space for a tent, to accommodate one family group. A standard picnic unit is one table and stove. Large picnic units for groups of visitors may also be planned. Units will be located about 50 feet from the edge of camp and picnic ground roads and at least 100 feet from lakes, streams, and main roads. Camp and picnic units will be spaced about 100 feet apart for privacy, and to prevent overuse of the site. House trailers are allowed to use campgrounds under certain restrictions. Occasionally portions of ordinary camping areas will be used. When the latter is desirable, the trailer units generally will be grouped in one part of the campsite rather than scattered through the site. Trailer doors open on the right side; therefore, units will be planned so that doors will face away from camping area roads.

f. Tables and fireplaces: Tables will be located to take advantage of maximum shade during the heat of the day. Since at higher altitudes shade is not as important as at low elevations, improvements may be located in spaces that are more open in character. Fireplaces will face across the prevailing wind to minimize smoke nuisance, and should be located under high shade but far enough from trees to prevent fire damage. Under certain conditions, the fireplace may face toward the

broadside of the table so a maximum seating arrangement will be possible for evening warming fires.

g. Parking spurs and areas: Each camp unit should be served by a short section of road or spur for parking. Camp-unit parking spurs should be located at an angle of about 45 degrees to one-way campground roads. The angled spurs may be designed for either forward or back-in parking. For two-way campground roads, parking spurs may be at right angles. Trailer camp parking spurs will always be planned as 45 degree back-in spurs. Normally the existing natural conditions will suggest desirable locations for parking spurs. Average dimensions for camp-unit parking spurs will be 12 feet wide by 30 feet long; and for trailer camp units, 12 feet wide by 55 feet long. Picnic units will be served by group-parking areas located centrally within the site. Minimum dimensions for central-parking areas are noted in attached table.

h. Toilets: Toilet facilities (minimum number of seats) are required on the basis of number of persons considered as capacity of the site - one seat for each 25 persons. Toilets for campgrounds will be placed not over 300 feet from camp units. They are best located just off interior roads so that campers may approach them walking along the road. This saves the cost of paths and prevents wear of ground cover from paths. When so located, toilets are easily reached for pumping out and other maintenance. On picnic grounds, toilets may be located near the central parking area. Toilet buildings will be in partially-screened locations, accessible to users, accessible for maintenance; and far enough from lakes, streams, springs and other bodies of water to prevent pollution.

i. Water supply: Water supplies for camp and picnic grounds will be shown on recreation-site designs. The source of supply and pipeline location will be delineated. Wells, springs or hydrants will be conveniently located to camp and picnic units, but not so close that one camp unit can monopolize the source.

j. Other improvements: Other improvements usually needed on camp and picnic areas are those for (1) protection of public safety, (2) fire prevention, (3) protection of the site, (4) dust abatement, (5) public service, (6) information, (7) sports and play, and (8) registration. All improvements needed and appropriate will be shown on recreation-site designs. Necessary notes and specifications and designs will be included on final site plans.

k. Improvement designs: Appropriate designs will be selected from the standard designs. When standard designs are not suitable for a specific camp or picnic area, a design will be recommended for the state director's approval.

l. Sample camp and picnic site designs: Sample camp and picnic-site designs are included in these Guidelines.

6. Design of Recreation Improvements

a. Design principles: The design principles stated here apply to recreation improvements of every kind provided for public purposes.

b. Design safety factors: Designs will incorporate generous safety factors and will follow accepted engineering principles.

c. Function: Improvements will be designed to serve the intended function fully, safely, and conveniently.

d. Appearance: Appearance must be appropriate to the forest environment, the form, and general shape. Construction materials, and colors will be combined to produce a visually pleasing improvement which presents a minimum of contrast with surroundings. Simplicity, good proportions and an appearance of naturalness to the forest setting are desired in the completed structure.

e. Durability: Improvements will be designed to incorporate durable materials in such manner as to prolong the period of serviceability and facilitate economical maintenance.

f. Corollary design principles: Consistent with principles of design the following corollary principles apply:

(1) Form and shape: To the extent feasible, the overall mass and outline of improvements will be inconspicuous and will not contrast unnecessarily with natural forms on the site. Designs will emphasize low and predominantly horizontal lines. Where feasible, structures should be placed with their long side parallel to natural slopes.

(2) Materials: There is no prejudice against the use of any durable building material which can be applied or adapted to meet the principles of design. Modern materials such as structural steel, concrete and aluminum in well-designed combination with wood or stone, may be entirely appropriate.

g. Landscaping and finished grades: Finished grades and planting will be such as to soften the transition between structures and natural ground forms. Natural forest conditions will be preserved to the fullest extent consistent with necessary area fireproofing and space requirements.

Tree pruning and clearance will be held to the minimum and may be done only under the direction of a forest or range officer. Urban-like flower beds and mowed lawns are not desired. Walks will usually be of informal paths. Painted or whitewashed rocks or trees and other types of decoration foreign to the natural environment are not acceptable.

7. Design of Improvements for Camp and Picnic Sites

Oregon-wide designs are established for tables, pit toilets, fireplaces, garbage disposal, etc. The designs which follow show dimensions, materials, colors, installation details, and optional features.

a. Camp and picnic tables

Heavy plank table - T&G -Fig 16

Heavy plank table -Fig 14

Light plank table -Fig 15

b. Pit toilet

Single seat, wood -Fig 13

Seat and pit designs -Fig 12

c. Fireplaces and grates

Standard fireplace -Fig 14

Stove, NPS -Fig 15

d. Signs - Fig 22, Fig 23

e. Wells -Fig 10

f. Spring development -Fig 11

Other improvement designs may be utilized in the development of specific recreation sites, trails, and areas. Approval of other desigs by the state director is required prior to use.

II. DEVELOPMENT OF RECREATION SITES

A. Camping and Picnic Sites

A campground is a site developed primarily for overnight use by campers, and a picnic ground is a site intended mainly for the use of picnickers. Camp and picnic grounds are improved to give visitors attractive sites, sanitary facilities, and places where campfires may be safely built. (Fig 4)

1. Objective

The Bureau of Land Management objective is to develop and maintain safe, sanitary, camp and picnic sites in sufficient numbers to accommodate, without overcrowding, the average peak-use season weekend use.

2. Policy

Public use of BLM-maintained camp and picnic sites will be without charge. The basic recreation policies and the following supplementary policies will govern the management of camp and picnic grounds:

a. Safety, sanitation and attractiveness: BLM camp and picnic sites will be kept in safe, sanitary, and attractive condition. Public lands' visitors will be encouraged to use developed camp and picnic sites to prevent unsanitary conditions, pollution and forest fires.

b. Safety: BLM camp and picnic sites will be located, planned, developed, and maintained in as safe a condition for public safety as is possible. Camp and picnic areas will not be located on sites which have natural hazards that cannot be reduced to an acceptable minimum.

c. Sanitation: Every camp and picnic site will be designed to include improvements which will give the best practicable sanitary conditions. Water systems, toilets, refuse disposal, and dust-abatement improvements will be developed on camp and picnic sites as needed to protect public health. (Note attached Oregon State Board of Health Regulations).

d. Attractiveness: Sites for camp and picnic grounds generally will be the most desirable and attractive lands available. Whenever possible, they will (1) be closely associated with recreation features such as lakes, streams, old-growth timber, meadows or

unusual scenery, (2) be accessible by good road or become accessible by planned road development, (3) have good water supply, (4) have attractive vegetative cover and adequate shade if possible, and (5) have gentle topography under 10-percent slope. (Fig 2)

3. Capacity and Spacing

Family units in campsites and picnic sites will be designed about 100 feet apart to preserve the forest cover and to give people privacy and a sense of being in the forest. Overcrowding either from doubling up at units or from persons camping or picnicking in between units will be prohibited. Cars will be restricted to roads, parking areas, and parking spurs.

4. Work Priority

The BLM will perform work on camp and picnic sites in the following work priority:

a. Care and policing, and maintenance of existing developments.

b. Rehabilitation of worn-out improvements on existing developments.

c. Expansion of existing developments or construction of new camp and picnic sites as needed to accommodate the demand.

5. Expenditure Priority

Normally, the following priorities will govern the expenditure of recreation funds for camp and picnic site improvement:

a. Adequate access and parking areas.

b. Sanitation, safety, and fire protection improvements.

c. Site protection improvements.

d. Public service and convenience improvements.

e. Information improvements.

6. Housetrailers in Campgrounds

Housetrailers and pick-up campers small enough to enter regular campgrounds and to park in spurs of normal size without interference with traffic will be permitted on the same basis as tents. Housetrailer occupants will

not be permitted to use trailer toilets or washing facilities unless proper disposal of waste is possible.

7. Sanitation and Protection Improvements

The most important camp and picnic site improvements are those necessary for protection of public health and safety, and for prevention of fire, overuse, and misuse of the site.

a. Toilets: Sanitary toilets are perhaps the most essential improvement on camp and picnic grounds. They must be conveniently placed, sufficient in number, and adequately designed to prevent contamination and pollution with a minimum of care, policing and maintenance. Toilets inadequate in location, number, or design are a hazard to public health. Toilets will be located in camp and picnic sites and delineated on site designs as specified in Recreation Site Design. The design of buildings is covered in the standards section of these Guidelines and operation and maintenance are similarly specified.

Sewage disposal on camp and picnic sites may be by means of simple sanitary pits, water-tight sanitary pump-out pits, chemical tanks or septic tanks. The specific type to be selected for a camp or picnic site will depend upon existing site conditions. Camp and picnic sites will usually include water-flush toilets and septic-tank sewage disposal under the following conditions:

(1) Heavy public use.

(2) Full-time caretaker to maintain the system.

(3) Adequate water supply.

(4) Soil conditions satisfactory for efficient disposal.

A sanitary pit toilet is the most satisfactory type for smaller camp and picnic sites where the volume of public use is light and where site conditions do not meet the requirements for flush toilets and septic-tank disposal.

Conveniently-located, well-designed, and properly-maintained sanitary facilities are appreciated by the public and induce public cooperation. District managers will enlist the services of local state or county health departments, when available, to

establish a sustained program of sanitary inspection and consultation to insure proper installation.

b. Refuse disposal: Disposal of refuse from camp and picnic sites is necessary to (1) eliminate conditions favorable to disease-spreading insects and rodents, (2) minimize obnoxious odors, (3) prevent pollution of water supplies, and (4) prevent the defilement of natural forest beauty.

It is essential that the public be encouraged to cooperate in the disposal of garbage and trash. Receptacles for garbage will be placed convenient to camp and picnic units. Signs and other educational mediums will be used to encourage users to burn their combustible trash in the camp stoves.

Refuse from camp and picnic areas will generally be placed in cans for collection and final disposal in an approved area. In small, remote, and difficult-to-service camp and picnic grounds, refuse may be disposed of in garbage pits located in convenient parts of the site. When this method is used, the pit must be fly and rodent proof.

c. Water supply: Safe drinking water, when reasonably available and commercial electricity can be purchased, will be piped to camp and picnic ground in adequate volume. Water supplies will be developed whenever possible from naturally protected ground water sources, such as wells or springs and will be protected from contamination. (Note attached State policy on Livestock Spring Developments.) When surface waters are used, proper water-treatment devices must be installed, and arrangements will be made to insure sustained and accurate treatment. Gravity water supplies with sufficient pressures are desirable; but when not available for large sites, pressure systems using electric pumps will be installed. Nonpriming deep-well hand pumps will be satisfactory for the majority of designed areas. (See attached sample well bid specifications)

d. Elimination of hazards: All hazards to public safety will be eliminated from camp and picnic sites.

e. Fire prevention: The hazards which may cause fires within and adjacent to camp and picnic grounds will be reduced to protect the recreation site and its improvements from being burned as well as to protect the adjoining forest or rangeland. Ordinarily, only the greatest hazards need to be removed from the developed site. Rarely will it be necessary to

sweep or rake all leaves and needles or remove all shrubs and ground cover from camp and picnic grounds. Minor camp and picnic grounds or those located on lands in highly-hazardous areas will be protected by the construction and maintenance of a firebreak around the developed area. This fire prevention on the camp and picnic site is best provided by the installation of well-designed camp fireplaces and stoves. Low, camp stoves and fireplaces will be constructed on all camp and picnic grounds for safe fires and public convenience.

8. Public Service Improvements

For the comfort and convenience of the public, camp and picnic sites ordinarily will be provided with tables, signs, and sometimes with small shelters.

a. Tables: Camp and picnic tables will be appropriate and attractive in appearance, sturdily constructed, and stationary or at least so heavy that users cannot move them easily. (Fig 16) In certain circumstances, tables will be chained to anchors. Tables will be placed on camp and picnic sites at the ratio of one for each family unit. Sites may occasionally be provided with large group picnic units equipped with several ordinary size tables. Whenever possible, tables should be located to be in shade during the hot part of the day.

b. Signs: Rustic signs will be erected in camp and picnic grounds to direct and inform the public. (Fig 22) Interim guidelines for rustic or painted signs will be utilized in recreation site developments

c. Small-group shelters: Small-group shelters may be constructed on camp and picnic sites only when necessary to provide the public with shelter against sudden inclement weather.

d. Swimming sites: Natural pools in streams and beaches along lakes, reservoirs, or rivers,when contamination problems do not exist, will be improved except in unusual instances. Since it will be impractical to station lifeguards at swimming areas, suitable precautionary signs will be required.

e. Playfields: Open level areas within camp and picnic grounds may be improved for use as playfields for baseball, volleyball or other impromptu sports. Improvement ordinarily will be limited to clearing the land of shrubs, occasional small trees, rock and other obstacles, and smoothing of the surface for the safety of the users.

f. Nature trails: Nature trails are often effective and desirable improvements on camp and picnic sites. Nature trails usually will be located outside or around the perimeter of the site and preferably will be on an easy grade.

g. Bulletin boards: Bulletin boards usually are needed to provide a central location for rules, regulations, time limits, and other special information. They will be (1) simple, appropriate, and sturdy and (2) located in a central place for convenience and effectiveness.

h. Registration: Registration boxes will be used at sites in conjunction with standard registration form. They will be (1) simple, appropriate, and sturdy, (2) located in a central area, and (3) combined with bulletin boards.

i. Fireplaces: Fireplaces of the simple metal-grate type are desirable for most camp and picnic sites. They are efficient cooking stoves, good warming fireplaces and economical long-lasting improvements. (Fig 14)

One stove or fireplace will be constructed at each camp unit. In many picnic areas one for each two or more picnic units will be sufficient.

j. Protection from overuse and misuse: All camp and picnic grounds will be protected from overuse and misuse to retain their attractiveness and to avoid serious damage to soil and cover. Overuse and misuse will be controlled on camp and picnic sites by (1) developments restricted to the desirable capacity, (2) developing only enough parking space to allow one car for each family unit, (3) restricting automobiles to roads and parking, and (4) administering the sites so that no discordant uses will be permitted.

k. Traffic barriers: Attractive, firmly-set barriers will be provided to prevent cars from leaving roads, parking areas, and parking spurs. Unrestricted vehicle traffic through camp and picnic sites decreases attractiveness and causes serious damage to soil and vegetation. Barriers must be massive enough to exclude automobile traffic and yet be as inconspicuous as possible. Careful design is necessary to attain this goal. Plantings will be made wherever practicable to ultimately replace artificial barriers and/or make them less conspicuous. Treated or naturally resistant species of logs and posts, or earth embankments, ditches,

boulders, colored concrete, or combinations make effective barriers; large in-place trees and rocks will be used as barriers when available.

l. Dust abatement: Roads, trails and camp units will be treated as necessary to abate or eliminate excessively dusty conditions. Many forest soils are of such character that heavy travel makes them exceedingly dusty. BLM policy is to stabilize road surfaces in all heavily-used camp and picnic sites.

Trails and paths within camp and picnic sites will be located to provide access to points of concentrated use, such as lakeshore. They help to preserve the site and provide easy public access to attractive features. Camp and picnic site trails and paths will be constructed to the standard justified by degree of use.

m. Access improvements: Roads, parking area, and trails will be constructed on camp and picnic sites to provide adequate and safe public access with reasonable maintenance cost. To accomplish this and at the same time alter the environment as little as possible, requires close collaboration of engineering and landscape architectural principles.

B. Camp and Picnic Table Standards

1. Material, western Oregon

Camp and picnic tables are to be constructed as follows:

a. Material should be made from sound western red cedar, California incense cedar or Port Orford white cedar; dimensions and material specifications to conform to working drawings which are a part of these Guidelines; edges, ends and tops to be smoothe to eliminate tearing of clothing. The material and design is generally used for a semi-portable table; and the approximate weight of the table is 250 pounds. (Fig 16)

b. Tables should be finished with F.P.L. Stain, Clear, General Paint Corp., #52567 Moccasin or an equal preservative.

c. Tables will be branded underside of top at center with electric or similar brand denoting Property, U.S., BLM. A similar brand should be made on one or both of leg supports at inside top.

2. Material, eastern Oregon

Camp and picnic tables are to be constructed as follows:

a. Material should be made from No. 2 common or better and free of pitch pockets; dimensions and material specification are to conform to working drawings which are a part of the Guidelines; and edges, ends and tops are to be smoothed to eliminate tearing of clothing. This material is generally used for a light, portable table. (Fig 15).

b. Tables should be finished with F.P.L. Stain Sagebrush, General Paint Corp. #52865 or an equal preservative stain.

C. Camp Stove

The camp stove is to be placed at each camping unit and at selected picnicking units. The stove site should be cleared of all inflammable material at a distance to insure adequate fire protection. The ground under the firebox should be graded to mineral soil or leveled with crushed rock or gravel, and the footing for the concrete slabs should be firm and well tramped.

1. The three-piece camp stove including cast iron grate and two separate lite-rock concrete sides should be used in the majority of sites. (Fig 14)

2. The "U"-shaped camp stove poured in one unit with grate attached which hinges to form cooking grill should be used only in heavily-utilized areas where a road leads to each unit. Approximate weight of the unit exceeds 600 pounds. (Fig 15)

D. Pit Toilet Standards

The standard prefabricated single-pit toilet is to be constructed and installed as follows:

1. Material should be made from exterior Douglas-fir plywood; corrugated roofing should be "Everlite" true yellow heavy architect fiberglass, rough surface or equal; dimensions and material specification, including information herein noted, to conform to working drawings which are a part of these Guidelines.

2. Toilets should be finished in western Oregon with a minimum of one coat of FPL Stain Moccasin General Paint Corp. #52587 or equal. Louvers should be Sherwin Williams Berkley yellow enamel or equal. A two-coat application should be applied. The interior

should be painted with two coats of grey or green light enamel. (Fig 13)

3. In eastern Oregon, toilets should be finished with a minimum of one coat application of FPL Sagebrush General Paint Corp. #52865 or equal.

4. Maintenance is materially reduced by having all of the structural members of the toilet on the outside. In the event contract specifications are made for a total site, units can be constructed in place. Cool pastel colors on the inside of the unit tend to reduce wall writing; similarly increased lighting has the same result.

5. Optional pit construction includes use of light-weight concrete block, concrete pipe and corrugated galvanized culvert. A minimum pit capacity of 54 cubic feet is desired. A 6x8x16 metal vent, screened on inside, should be inserted at rear on both sides in the course of block supporting concrete slab floor. "K" webbing is recommended for use with concrete block construction. Webbing should be placed midway up the wall, between the next to last course and the last course. Ten courses of 126 light weight blocks are required for a pit. Approximately 60 feet of webbing is required. When metal culvert or concrete pipe is used, a footing suitable for block courses is required. Waterproof caulking compound applied with gun should be used to seat floor slabs at union and to seal toilet to slab holes.

   Use of the steel toilet stool is recommended in areas subject to heavy potential vandalism.

   The pit floor should be gravel to permit normal attrition. Do not seal bottom. (Fig 12)

E. Space Requirements for Recreational Facilities

Facility	Unit	Minimum space requirement
Parking	1 car	10x20 ft. plus 20 ft. for turning in and backing out.
"	Multiple cars	Compute on basis of 300 sq. ft. per car, assuming that a 20-ft. turning width is located between and serves two parallel rows of parking spaces. Add space needed for entrance and exit roads; lawn, shrub, or tree islands; buildings; walks or paths.

E. Space Requirements for Recreational Facilities (cont.)

Facility	Unit	Minimum Space Requirement
Picnicking	1 picnic unit, 8 people, maximum. (Includes 1 combination table and bench, 1 fireplace, 1 trash receptacle.)	15x15 ft. overall or 225 sq. ft. per unit. Add space needed for parking and a buffer zone for privacy. Maximum distance to nearest drinking water and latrine, 300 ft.
Camping	1 tent camp site. (Includes 1 fireplace, parking space, for car and utility trailer, and space for tent or tent fly.)	25x30 ft. overall, or 750 sq. ft. per unit. Add a buffer zone between units for privacy. Maximum distance to nearest drinking water and latrine, 300 ft.
"	1 trailer camp site. (Includes 1 fireplace, parking for car and house-trailer, and space for tent or tent fly.)	30x40 ft. overall or 1,200 sq. ft. per unit. Add a buffer zone between units for privacy. Maximum distance to nearest drinking water and latrine, 300 feet.

F. Photographic Record

A photographic record will be compiled of recreation resources and their development. This record will be assembled as directed by the state director and maintained currently. Good clear photographs will be made, both black and white and color of such subjects as:

1. Important recreation attractions in the several districts, including timber, range, and general scenery.

2. Public use of all the different kinds of recreation areas and recreation sites in the district.

3. Recreation improvements on all kinds of recreation sites.

4. Before, during, and after development of recreation sites.

G. Trail Construction

1. Surveys

a. Reconnaissance: This is the most important part of a survey and is perhaps the most often neglected.

Where good contour maps of the area are available, lay out a preliminary trail line on the map before going to the field. When aerial photographs are available, carefully examine terrain and cover stereoscopically, and then lay out a trail line on the photographs before any field work is done. When both contour maps and aerial photographs are available, field work will be greatly reduced if both are used in laying out a trail line on aerial pictures. Keep grade constantly in mind when studying prospective trail routes. As an objective, keep grades below nine percent. If gaining altitude is a factor in route selection, maintain a tight eight percent sustained grade wherever practical. Include an "easing off" section of at least 500 feet with a grade of four percent or less whenever practical but at least once in every five miles. In beginning an ascent, "pick up" the grade slowly at a rate of one percent or less per 100 feet.

Ten-percent grades are permissible but should not be exceeded unless there is no alternative. Fifteen-percent grades are excessive, whether short or long grades, unless the total trip distance is under one mile and the average grade for the trip is under seven percent.

Take copies of the photographs and maps to the field with the trail line shown and use for the reconnaissance survey. In marking the trail line on the photos, select as many control or reference points as possible which can be easily recognized on the ground. If such target points are missing, reference the trail route by rough triangulation from natural features which should be visible from the ground.

Even with maps and photographs available, there is no substitute for on-the-ground examination of any proposed trail route to save later costs of location, construction, and maintenance. Mark all trail lines with temporary markers that will be recognized by the locator but can be easily removed or obliterated and not confuse the construction crew. A thorough and careful reconnaissance results in a readily identifiable line on the ground that may be staked as a trail location for construction. (Fig 17)

Other factors affecting trail location and deserving careful consideration during reconnaissance are:

(1) The suitability of the trail for use as a prepared backfire line.

(2) A routing to provide maximum access for hunting and fishing.

(3) Access to desirable campground sites.

(4) Access to interesting and attractive scenery. Ridgetop routes are usually most effective in this respect.

(5) Trails providing access to campgrounds should pass by rather than through the area.

b. Location surveys: Since most trail construction and reconstruction work is accomplished by force-account crews working under experienced personnel or by mileage or station contracts, a minimum of detailed final design and plan preparation is required as compared with road project plans. Usually the preliminary survey, final survey, and construction staking are done as one operation with the locator actually deciding on the final design as he proceeds. Normally, surveys are made by the grade contour method and stakes are used to indicate grade rather than centerline. Cross slopes are measured with the abney level and slope stakes are set in conformance with the standard cross section by measuring from the grade stake, using a range pole or rod graduated in feet. The length of trail or location usually can be estimated with sufficient accuracy by pacing. If desired, the correct final length can be measured with a bicycle wheel equipped with an odometer or counter. This type of measurement is suitable for the award of mileage or station contracts. If accurate linear distance is needed before construction, measure with an engineer chain or metallic tape.

c. Location survey staking: Location survey stakes on the ground are needed by the construction crew to insure that the completed trail will be in the exact alignment the locator had in mind.

(1) Set grade stakes as necessary to define the route. An average spacing of approximately 50 feet should ordinarily suffice. Make stakes long enough to be readily visible, from adjacent stakes. Lath are often used for grade stakes. Stakes made of native materials, cut long enough so that a butterfly can be placed in a notch five feet above the ground are very satisfactory. Use of this type of stake,

together with a five-foot "height of instrument" stake for the abney, permits the projecting of an accurate grade contour line by one man.

(2) Set slope stakes on all trail that is to be constructed with a trail plow or a mechanical grader. To build a trail of the proper width and to the established design grade, start work at the top of the slope and carry down to grade. This cannot be done efficiently or correctly without properly set slope stakes. These stakes can be the normal 18-inch sawn stakes or any similar type marker. They need not be set at the time the location survey is made, but may be set by the locator or construction foreman just ahead of grading.

Slope stakes for trail construction need not be set with the same accuracy required for road construction. The average locator or construction foreman can, after a little experience, set slope stakes from estimated rather than measured side slopes for the normal trail section. Use more accurate methods for switchbacks or in other places where construction may require an abnormal amount of excavation.

2. Construction

Trails may be constructed by contract or by force-account methods. When work is done by contract, the crew planning and organization will normally be similar to that of a force-account crew.

a. Clearing: Clearing for trail construction will vary according to the service class and value of the trail to be built. (Fig 18)

(1) All purpose trails - Class A. Clear all-purpose trails to a height of ten feet above the trail tread and to a minimum width of eight feet. A good means for measuring the area to be cleared is for an average height man (6 feet) to stand in the center of the trail tread with arms extended at right angles to the trail. Remove all limbs or branches within one foot of his hands. Estimate the ten foot overhead clearing by having the same man reach as high as he can with an ax. Overhead clearing should permit a man on horseback to ride over the trail without interference when limbs are wet from rain or snow.

For protection against erosion and for the good appearance of the area, leave all healthy trees over 12 inches d.b.h. which will not interfere with loaded pack animals. In sparsely timbered country do not remove any healthy tree over six inches d.b.h. except where it interferes with trail traffic and the trail cannot be relocated to eliminate the interference.

Cut trees three feet above the ground when stumps can be removed by blasting or pulling. This will provide enough of a stem to give good leverage for pulling with a winch or other device. Remove trees and stumps if the tree roots will interfere with grading. Cut all brush flush with the ground, and treat the roots and stumps with chemicals to prevent sprouts. Cut all snags and dying trees which might fall across the trail. When trees are removed to provide pack clearance, cut as nearly flush with the ground as practical.

Cut off green limbs flush with the tree trunk to permit the cut to heal over. In some instances, it may be justifiable and practical to paint wounds to prevent decay. Widen clearing areas to waterholes, resting places, and scenic points. Widen clearing at the upper side to permit passing at intervals in places where sideslopes are slight. Where traffic is limited to hikers, clear trails only to the width that will assure an open trail at all times when use will be maintained.

b. Tread construction: Do not unnecessarily disturb the existing ground surface to obtain a trail tread. Construction of sidehill all-purpose trails usually requires grading a shelf for the trail but if the existing surface provides a suitable tread, leave it undisturbed. This will reduce erosion and maintenance. Whenever practical, form the tread building up rather than cutting down. Remove all duff before making fills for the tread.

c. Grading: Start grading at the upper slope stake and carry it down to the finished grade. The usual procedure is to scratch a continuous line between the upper slope stakes, using a pick or mattock. Remove any excess duff at this time. Begin excavation along this line, using the mechanical grader, a plow and trail grader combination, hand tools, light tractor, or other means. Keep the working surface approximately level or slightly insloped until the final grade is reached.

d. Switchbacks: Avoid switchbacks whenever possible. If unavoidable, construct the turns as flat as possible. On sideslopes of less than 20 percent, treat the switchbacks as any other section of the trail following a long-radius curve. (Fig 19)

e. Turnpike sections: Build turnpike sections across flats where there is wet or boggy ground. When the ground is so wet that grading cannot be accomplished and drainage is not possible, import material or use puncheon surfacing. When drainage is practicable, first drain the area and let it dry before doing further construction. If the area is dry at the time of construction but turnpiking is necessary for trail use during other seasons, the problem is simplified. Cut ditches and build the tread up with the excavated material. Make ditches about six feet apart and from six to twelve inches deep. Slope the sides to facilitate maintenance. Make ditches self-draining.

f. Other sections: Level or gently sloping areas that drain readily and will not erode under use require little or no grading. Examples are ridgetops or dry flats. If no construction or clearing is done, the trail must be clearly marked for either day or night use.

g. Mechanical-powered grader: Within recent years the mechanical-powered grader has come into general use for trail construction. It is a mechanical device operated by two men and excavates and removes the material as it proceeds. Standard machine-operating instructions are supplied with the equipment.

h. Drainage: Drainage is perhaps the most important item in trail construction. The three natural divisions of the drainage job are:

(1) Surface drainage: The problem is solved by diverting the water from the trail at sufficiently close intervals before it builds up an erosive force. In trail construction the methods of diverting the water are by outslope, grade dips and water bars. (Fig 20)

(2) Outslope: Outslope of the tread is probably the best method and the one most commonly used. This method requires periodic maintenance of the tread to prevent the formation of a rut and channel in the trail. Outslope should not exceed 1 inch in 18 inches except at dips

where it should not exceed 4 inches in 18 inches. Outslope is most satisfactory when used in combination with grade dips.

(3) Grade dips: Grade dips are sections of trail where a shorter piece, generally not over 5 to 6 feet, has been built with a grade slightly adverse to the prevailing grade of the trail. This prevents the flowing water from passing that point. The trail is steeply outsloped at the low point in the dip to divert the water from the trail. Grade dips are most satisfactory when they are built into the original construction and the designed grade allows for the adverse grade. When grade dips are built into an existing trail, the upper portion generally is too steep for proper maintenance. Instead of building dips in an existing trail, it is customary to build water bars.

(4) Water bars: Water bars are generally made with a 6 to 8 inch diameter log laid at a slight angle to the trail and fastened in place with heavy stakes, posts or steel pins. Downgrade from the water bar, make the tread flush with the top of the log. Upgrade, make the tread approximately at the center of the log. Immediately above the water bar, slope the outer edge of the trail outward to permit release of the water. Since water bars cannot be used on trails that will accommodate scooter or duffel carrier traffic, provide culverts where outslopes are not practicable. Any provision for the discharge of surface water must include precautionary measures that will prevent silting, erosion, or gullying of areas off the trail.

(5) Subsurface water: The best solution to extensive subsurface water on flat ground is to relocate the trail on the sidehill and bypass the trouble. In some cases a drain ditch can be dug by hand to divert the water into a stream. In other cases blasting ditches can be used to solve the problem. Drainage ditches that can be left open should be designed and built to provide continuous service without unusual maintenance. A small amount of water is not objectionable if allowed to flow across the trail undisturbed, provided the soil will not become boggy.

i. Streams: Streams may be crossed by bridges, culverts, or by fords. Depending on the width and depth of the stream, design for bridges, etc., should be considered.

j. Surfacing: Ordinarily, use native gravel or "near gravel" found near the site, for surfacing. Because of the relatively high labor cost involved per cubic yard of material in place, the source is of greater importance than the quality of the material. Filling small boggy places in the trail with large flat rocks is an effective way. Puncheon or corduroy construction is another type of surfacing that is both costly in construction and maintenance and has the additional objection of being unsafe as it approaches the end of its useful life.

k. Structures: Hold the use of structures in trail construction to the minimum and assure that each has ample economic justification. Bridge designs are available in associated reference sources. (Fig 21)

l. Maintenance: Maintenance is preserving and keeping each trail, trail structure or trail facility in as nearly as possible the same condition as when originally constructed. Normally the maintenance will be accomplished by force account personnel.

m. Signs and signing: Proper directional signs are probably more necessary on trails than on roads. Install mileage markers easily visible for the traveler. To prevent use by vehicles or types of travel for which they were not designed sign special-purpose trails to indicate the primary use for which they are maintained. (Fig 23)

Interim Guidelines for rustic or painted type signs should be consulted.

H. Signs

The design, requisition, and use of signs for recreation sites will conform to instructions contained in Interim Guidelines for Rustic or Painted Type Signs. Conformity in design includes shape, color, symbols, wording and lettering. Regulatory, warning and guide signs are patterned after the same types of signs prescribed in the Manual on Uniform Traffic Control Devices for Streets and Highways as published by the Bureau of Public Roads. This manual is recommended as an authoritative guide to road signing, and is so recognized by leading highway and traffic agencies including the American Association of State Highway Officials.

Uniform entrance signs and supports (Fig 22) will permit the using public to associate the recreation sites with the BLM throughout Oregon. Entrance signs will normally be made by the Federal Prison Industries at McNeil Island, Washington, to Bureau specifications.

The using public tends to resent arbitrary sign legends. Legends prohibiting, warning or threatening users will be held to a minimum.

I. State Policy on Livestock Spring Developments

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
State Office
809 N. E. Sixth Avenue
Portland 12, Oregon

100.4

January 16, 1960

Memorandum

To: District Managers - Eastern Oregon and Medford

From: State Supervisor

Subject: State Policy on Livestock Spring Developments

The development of natural springs or seeps is perhaps the most desirable type of water development that might be employed in providing livestock and wildlife water on the federal range. Spring developments usually supply a continuous flow of good quality water, sufficient in quantity to serve large numbers of livestock and game. Also, by reason of the fact that the flow is fairly uniform, special storage facilities are not usually required. The development of this type of water as a range improvement project by only constructing an earthen catch basin or dam below the spring is not a satisfactory method. While such a procedure may improve conditions for livestock water, we have been criticized at times as it does not permit the use of the water by recreationists and the general public using the area and is poor utilization of a valuable resource.

In view of the many and varied uses being made of BLM lands, it would appear that our spring development specification standards should be raised to provide good quality water for human use, as well as livestock and game. Accordingly, as a matter of State policy, all spring-type developments in the future constructed either by BLM or cooperators on BLM administered lands should provide for multiple use of the water. As a minimum design, all springs or seep developments should involve (1) the installation of a collection box or system, (2) fencing or protection of the collection area or head of the spring, (3) piping the water away from the collection point, and (4) the installation of storage facilities such as tanks or troughs and means by which a person may use the water. The facilities for human use need not be elaborate, except in the case of spring improvements performed in connection with the recreation development program which will entail special design.

Several districts are following this policy in varying degrees at

present, and have developed satisfactory designs. No standard design will be required, however the engineering handbook contains several suggested spring specifications that provide the above basic requirements that are to be employed in all spring development projects in Oregon. You are encouraged to submit suggestions to the incentive awards committee of multiple use spring designs.

/s/ Russell E. Getty
State Supervisor

J. Sample Well Specifications

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
3550 Liberty St., N.E.
Salem, Oregon

SPECIFICATIONS

for

Drilling, Casing, Testing Well and Furnishing and Installing Pump in Dogwood Recreation Area Located in S½NE¼, N½SE¼, Section 3, Township 12 South, Range 3 East, W.M., Linn County, Approximately 22 Miles Northeast of Foster, Oregon

REQUIREMENTS AND DEFINITIONS

Section - 1 General

Section - 2 Casings and Well Screens

Section - 3 Description of Work

Section - 4 Testing for Yield and Drawdown

Section -5 Testing for Plumbness and Alignment

Section -6 Disinfection

Section -7 Records and Samples

Section -8 Abandonment of Well

Section -9 Measurement and Compensation

Section -10 Invitation to Bid and Bidding Schedule

Section - 1 General

1.1 Scope of Work

The work to be performed under this contract shall consist of furnishing all tools, materials, equipment, supplies, labor, superintendence, transportation necessary to the drilling, casing, developing, testing of a well herein specified, the furnishing and installation of a hand force type pump herein specified in accordance with specification and schedules made a part hereof.

Drilling operations shall commence within twenty days of notice in writing to start work and shall continue until a water supply meeting the requirements of this contract has been established or to a maximum drilling depth of 60 feet.

1.2 Licenses, Laws, and Regulations

a. The contractor shall be an experienced water well driller licensed to operate in the state of Oregon during the 1960-61 license year.

b. The contractor shall keep himself fully informed of all State and National laws and regulations applicable to the working conditions and operations in rendering the services specified in this contract.

c. The contractor shall at all times observe and comply with, and shall cause his agents and employees to observe and comply with, all such laws, regulations, and orders; and shall protect and indemnify the United States Government, and all of its and their officers and agents and servants against any claim of liability arising from or based on the violation of any such law, regulation, or order whether by himself or his employee(s).

1.3 Location

The well to be constructed hereunder is to be located in the Dogwood Recreation area as shown on the attached Exhibit "A". The well will be located within the boundaries of the recreation area, so located as to be accessible for cleaning and repair and other such attention as may be necessary but not closer than 100 feet to the existing toilet pits. The location shall be approved by the officer-in-charge.

1.4 Definition

Cement grout shall consist of a mixture consisting of one bag of Portland cement (94 lbs.) with 5 to 6 gallons of clean water. Concrete grout shall consist of a mixture consisting of Portland cement, sand, and water in the proportion of one bag of cement (94 lbs.) and an equal volume of dry sand with 5 to 6 gallons of water.

1.5 Site Investigation

The contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work. The contractor

further acknowledges that he had satisfied himself as to the character, quality and quantity of surface and sub-surface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site and specifications made a part of this contract. Any failure by the contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government assumes no responsibility for any conclusions or interpretations made by the contractor on the basis of the information made available by the Government. The Government also assumes no responsibility for any understanding or representations made by its officers or agents during or prior to the execution of this contract, unless (1) such understanding or representations are expressly stated in the contract, and (2) the contract expressly provides that the responsibility therefor is assumed by the Government. Representations which are not expressly stated in the contract and for which liability is not expressly assumed by the Government in the contract shall be deemed only for the information of the contractor.

1.6 Boundaries of Work

All operations of the contractor (including storage of materials) upon Government premises shall be confined to areas authorized or approved by the officer-in-charge.

1.7 Protection of Site

a. The contractor shall at all times conduct his work in such a way as to prevent undue damage to property on which the well is drilled. The contractor shall dispose of all mud, drill cuttings and other refuse in a workmanlike manner. Due precautions shall be taken against starting fire in the surrounding forests, brush or grass. Upon completion of the work, the contractor shall remove from the vicinity of the well all plant, buildings, rubbish, unused materials, camp refuse and other like material belonging to him or used under his direction during construction. In the event of his failure to do so, the same may be removed by the Government at the expense of the contractor.

b. The contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site which do not unreasonably interfere with the construction as may be determined by the contracting officer or his designated representative. The contractor will be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stockpiling of materials or tracking of areas by equipment.

1.8 General Description of Well and Pump

The well to be constructed hereunder shall have a maximum depth of sixty feet. The pump shall be a dempster adjustable hand force pump model 210F with cylinder, on a 4' x 4'x 6" concrete base, complete and ready for operation.

Section - 2 Casing and Well Screens

2.1 Casing to be used hereunder as a part of the permanent well shall be of new 6 inch I D welded steel pipe in lengths not shorter than five (5) feet, and having a minimum weight of 17 pounds per lineal foot. The welded joints shall be water tight and as strong as casing.

The casing shall be perforated if conditions in the well indicate that perforations are required. Perforating will not be accomplished without the approval of the officer-in-charge.

2.2 In the event, or to the extent, the acceptable water supply is encountered in fine sand or in a formation which is unstable, the contractor shall install a suitable screen, taking into consideration the corrosion and formation encountered in the approved water-yielding stratum. Such screen, if used, shall be furnished by the contractor who will be credited for the cost and delivery of same (as evidenced by certified invoices, time statements and payrolls). Screen shall be of such material and construction as will prevent corrosion to the greatest possible extent and so designed as to provide maximum inlet area and remain free from clogging. Type of screen shall be determined in consultation with officer-in-charge.

Section - 3 Description of Work

3.1 The completed well to be constructed herein shall be comprised of the following sections:

a. A first section extending to an estimated depth of 20 feet penetrating soil, sand, gravel and rock, extending from the surface into solid rock for three feet. This section will be cased and concrete grouted so that it will seal off water-bearing formations that are contaminated or that have undesirable characteristics.

b. A second section of an estimated 40 feet shall be drilled from within the casing and continued at a minimum diameter of six inches. The remainder of the hole shall be left uncased unless the drilled material is of a nature which requires casing or liner to be installed.

c. If the nature of the material requires that the well be completed in unconsolidated material, the well shall be cased and grouted to a depth sufficient to seal off water-bearing formations that are contaminated or that have undesirable characteristics.

3.2 If water is encountered in the quantity 3 gallons per minute before drilling to the recommended depth, the contractor shall notify the BLM officer-in-charge and in his presence make a test of the well to determine its output. The test shall cover a period of 1 hour, and the bailing or pumping of the water during this time shall be a continuous operation. A minimum output of 3 gallons per minute at the end of this test will be adequate. Subsequent tests will be repeated without expense to the Government whenever the contractor's authorized official representative determines that there are sufficient indications of water-bearing formation to justify such tests. If the well fulfills these requirements before reaching specified depth the contractor will be paid at the contract unit price for depth drilled.

3.3 Should the well project into an artesian formation the construction of the well should be such that it will conserve the supply and head by preventing loss of water into overlying porous formations.

The contractor shall furnish all necessary pumps, compressors, plungers or other needed equipment and shall develop the well by such approved methods as necessary to give the maximum yield of water per foot of drawdown when the well is pumped under the maximum conditions of drawdown.

The contractor shall then furnish and install an adjustable hand force pump as specified in Section 1.8 complete with all the necessary 7/16" galvanized rod and 1-¼" galvanized pipe on a 4"x4"x6" concrete base complete and ready for operation.

3.4 Illustration of Well Construction - Exhibit B., page 8.

Section - 4 Testing for Yield and Drawdown

After the well has been completely constructed and cleaned out, the depth of the well accurately measured, make the necessary arrangements for conducting a final pumping test as specified in Section 3.2.

Section - 5 Plumbness and Alignment

The contractor shall drill the well as straight and perpendicular as is possible so that 6-inch I.D. casing may be installed without bending or buckling. The contractor shall guarantee that any casing installed shall be free from bends or warps that would preclude or hamper the efficient operation of a dempster adjustable hand force pump.

Section - 6 Disinfection

After the well has been completely constructed, it shall be thoroughly cleaned of all foreign substances and then be disinfected with chlorine.

Section - 7 Records and Samples

7.1 Records. An accurate log, showing depth and character of formation encountered for the well, shall be kept and made available for study by the authorized BLM representative during drilling operations. One complete copy thereof shall be furnished the officer-in-charge for his historical records. Final payment will not be made for the work done until the well log has been received by the Bureau of Land Management officer-in-charge.

7.2 Samples of Formations. The contractor shall keep an accurate record of the location of the top and bottom of each strata penetrated and shall save, properly label, and deliver to the officer-in-charge a one quart sample of the material taken from each 10 feet of drilling and at every change of formation. The contractor shall furnish waxed paper containers for these samples.

Section - 8 Abandonment of Well

Definition. To be acceptable, a hole shall be drilled, cased as directed, kept straight and free of tools or foreign matter that would retard or prevent further deepening, and finished to the depth designated. A hole shall be declared abandoned if (1) the contractor fails to sink and complete it to the required depth (2) if it does not satisfy the alignment requirements of the specifications and cannot be, or is not, straightened within the time limit of this contract, (3) the contractor voluntarily discontinues work on or fails to complete the assigned work on the well in a satisfactory manner within the time limit of this contract.

Section - 9 Measurement and Compensation

Payments to Contractors for drilling will be based on the actual depth of the hole, measured from the ground surface to the lowest point reached by the drill and in the diameter sizes and in the conditions set forth in these specifications. Payment for casing shall be based on the actual size and length left in place in accordance with these specifications. Payment for grouting and test pumping shall be on the basis of the contractor's bid item in the schedule of prices, and in accordance with these specifications.

Payment will not be made for a hole that is declared abandoned. In the event that the officer-in-charge orders termination of the work on a hole which complies with the specifications to that stage of progress, such hole will not be considered abandoned and work completed will be paid for under the applicable provisions of this contract.

Adjustments in Quantities of Work and Material. The quantities of work and materials stated under each bid item are estimated on the basis of the best information available. Award will be based upon the quantities of work and/or materials stated in the bidding items. However, payment to the contractor will be made for the actual quantities of work performed and/or materials in place and at the unit prices bid.

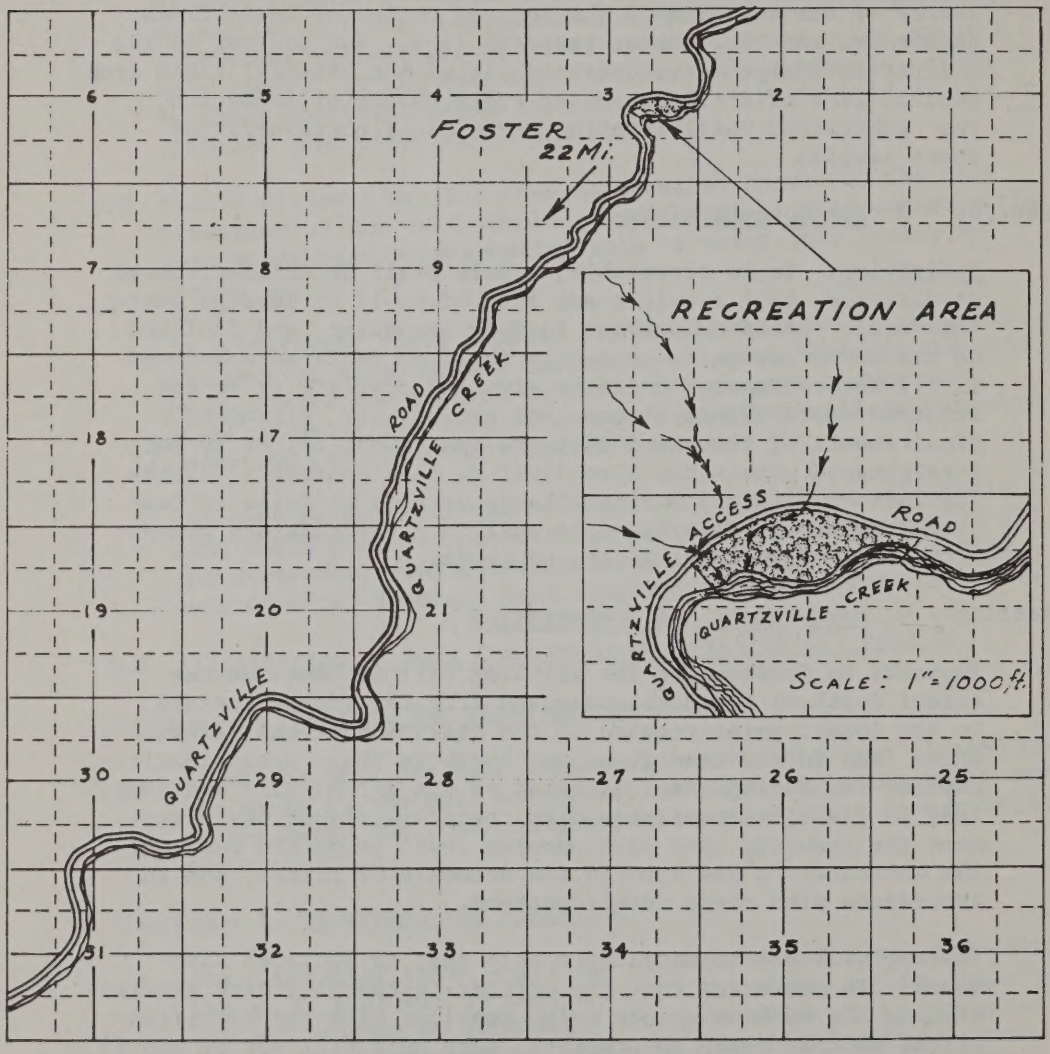
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EXHIBIT "A"

DOGWOOD RECREATION AREA

T. 12 S., R. 3 E., SEC. 3 , WILL. MER. SALEM DISTRICT

RROJECT LAYOUT H. L. S. DATE 11 - 1 - 60



SCALE: 1" = 1 MILE

RECREATION AREA

9 OF 10

Drawn: L. J. McD

FORM NO. A1-29A
MAY 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

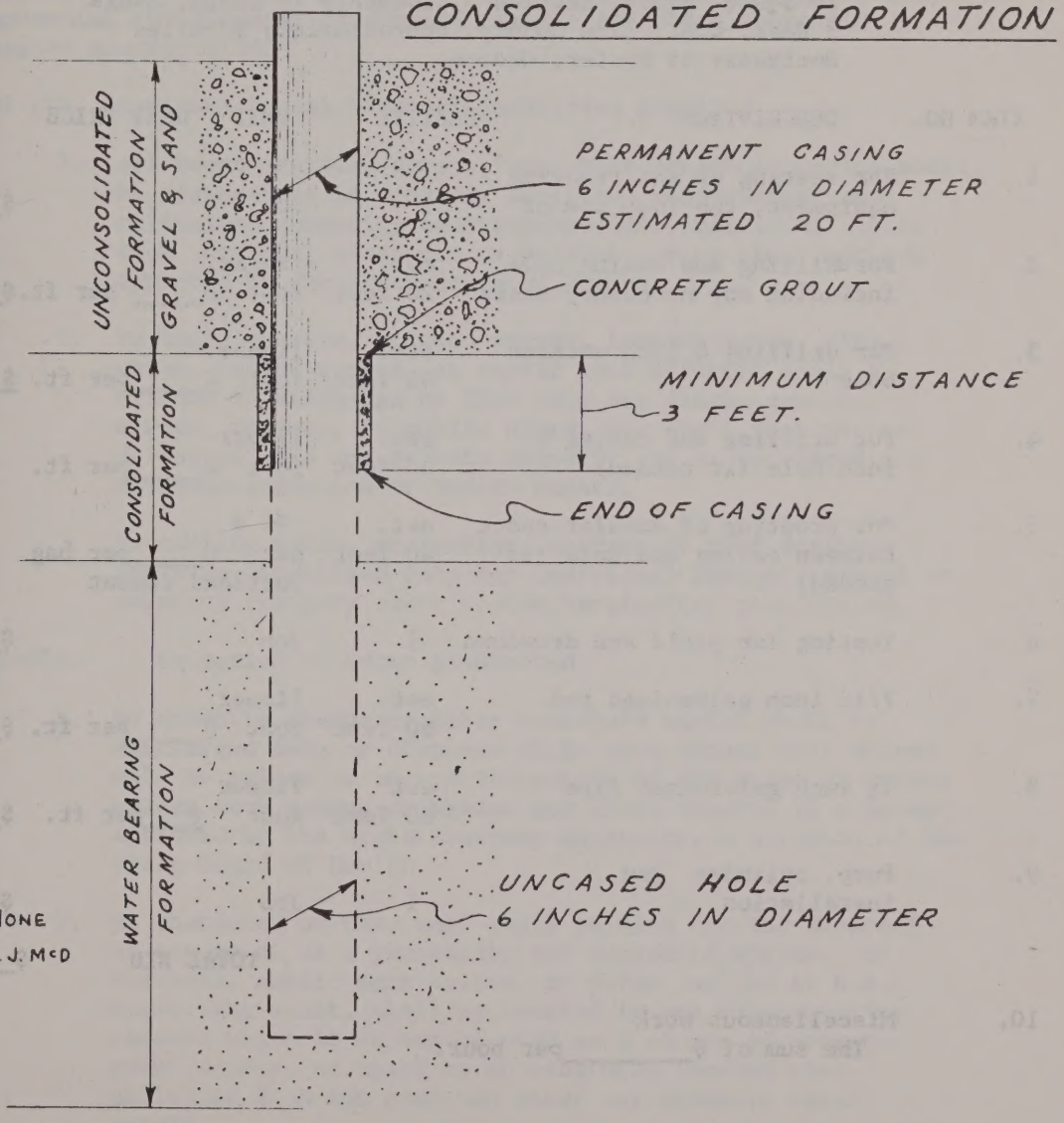
EXHIBIT "B"

DOGWOOD RECREATION AREA

T. 12S, R. 3E, SEC. 3, WILL. MER. SALEM DISTRICT

PROJECT LAYOUT H. L. S. DATE 11-1-60

ILLUSTRATION OF WELL CONSTRUCTION



SCALE: NONE
DRAWN: L. J. McD

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
3550 Liberty Road S.E.
Salem, Oregon

Section - 10 INVITATION TO BID
BIDDING SCHEDULE
FOR

Drilling, Casing, Testing Well and Furnishing and Installing Pump in Dogwood Recreation Area Located in S½NE¼, N½SE¼, Section 3, Township 12 South, Range 3 East, W.M., Linn County, approximately 22 miles Northeast of Foster, Oregon.

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMT.
1.	For setting up and removing equipment, the lump sum of	1	Job		$_____
2.	For drilling and casing hole including any necessary shoes	est. 20 feet	linear foot	$_____ per ft.	$_____
3.	For drilling 6 inch uncased hole	est. 40 feet	linear foot	$_____per ft.	$_____
4.	For drilling and casing 4 inch hole (if needed)	est. 40 feet	linear foot	$_____per ft.	
5.	For grouting of annular space between casing and hole (if needed)	est. 40 feet	94 # bag Portland cement	$_____per bag	
6.	Testing for yield and drawdown	1	Job		$_____
7.	7/16 inch galvanized rod	est. 60 feet	linear foot	$_____per ft.	$_____
8.	1¼ inch galvanized pipe	est 60 feet	linear foot	$___per ft.	$_____
9.	Pump, cylinder and installation	1	Job		$_____
				TOTAL BID	$_____

10. Miscellaneous work
The sum of $_____per hour.

K. Sanitation Regulations

1959 Regulations Governing the Disposal of Domestic Sewage and Other Household Wastes
Oregon State Board of Health
Division of Sanitation and Engineering
Portland, Oregon

Pursuant to the authority granted in ORS 447.020 the following regulations governing the disposal of domestic sewage and other household wastes were adopted by the State Board of Health on August 5, 1959, were filed with the Secretary of State on August 18, 1959, and are now in effect. All former rules and regulations governing the disposal of domestic sewage and other household wastes are repealed.

31-005. Sanitary Sewage Disposal Facilities Required

1. All human excreta, sewage, and other household wastes shall be disposed of in properly designed, constructed, and maintained community sewerage systems, individual septic tank systems, cesspools or privies, or by other methods approved by the State Board of Health.

2. No human excreta, kitchen wastes, laundry water, sink water, toilet wastes, or septic tank affluent shall be allowed to discharge or flow into any ditch, gutter, street, roadway, or public place, nor shall such wastes discharge onto any private property, so as to create a nuisance condition or health hazard.

3. No cooling water, or footing, surface or roof drainage shall be discharged into any individual sewage disposal or separate sanitary sewer system hereinafter constructed.

31-010. Pollution of Water prohibited

1. No domestic sewage or other household wastes shall be discharged into or disposed of in such manner that access will be gained to any public waters of the State of Oregon unless such sewage or wastes are first treated in a manner approved by the State Sanitary Authority, a division of the State Board of Health.

2. No abandoned or deep well shall be used for the disposal of sewage or as a receptacle for household wastes. No cesspool, septic tank system, or privy, unless it has a watertight vault, shall be located in any water-bearing stratum which is or may be used as a source of domestic water supply, or shall be so otherwise located that pollution from the same can enter any domestic water supply.

31-015. Disposal of Privy, Cesspool, and Septic Tank Contents

1. No part of the contents of any privy, cesspool, or septic tank shall be discharged upon the surface of the ground unless approved by the health officer having jurisdiction in the area. Final disposal shall be by incineration, burial, or other means approved by said health officer.

2. No person shall engage in the pumping, transportation and disposal of the contents of privies, cesspools, or septic tanks without first obtaining a registration certificate from the State Board of Health as required by ORS 447.033 and then obtaining a written permit from the health officer in the county in which the privies, cesspools, or septic tanks are located and from the health officer in the county in which final disposal of the material will take place. The permit shall designate where and in what manner the disposition of the material shall be carried out.

3. The contents of privies, cesspools, and septic tanks shall be transported in a manner that will not create a nuisance or health hazard.

31-20. Individual Water-carried Sewage Disposal Systems

31-025. Septic Tanks

31-030. Subsurface Disposal Fields

31-035. Seepage Pits

31-040. Cesspools

31-045. Non Water-Carried Sewage Disposal Facilities

1. Earth Pit Privies: The construction and maintenance of earth pit privies shall comply with the following requirements:

   a. Location: They shall be located at least 50 feet from a well, spring, or other source of domestic water supply, 25 feet from any stream, river or lake and 10 feet from any property line.

   b. Construction: The pit shall have a minimum capacity of 50 cubic feet, shall be at least 5 feet deep, and shall be lined with lumber to prevent caving. The pit shall be covered by a building of substantial construction located on either a concrete or a creosote treated wood sill to make it as fly-tight and rodent-proof as possible from the outside. The floor and riser shall be built fly-tight of wood or concrete. The seat opening shall be covered with a lid, hinged and so constructed that when closed, it will exclude flies

from the pit. Vents connected to the pit shall be covered with 16 mesh copper wire screen. The building shall have a tight-fitting door and substantial roof.

c. Maintenance: The seat covers shall be kept closed during the fly season when the privy is not in use. The contents of the privy shall not be permitted to overflow onto the surface of the ground or be exposed to flies and rodents. When the pit becomes filled to within 18 inches of the ground surface, either the contents shall be removed and disposed of by burial or a new pit shall be excavated and the old one shall be backfilled with at least two feet of earth.

2. Privies with water-tight receptacles:

On the watersheds of public water supplies, concrete vault privies, pail privies, or other facilities approved by the State Board of Health shall be used in the place of earth pit privies for the disposal of human excreta. The vaults and receptacles shall be constructed of reinforced concrete or metal and shall be water tight. They shall be maintained in a sanitary condition and the contents shall be disposed of by burial beneath at least one foot of earth in a location where the ground water will not be polluted.

III. RECREATION SITE MAINTENANCE CARETAKING

A. General Policy

Adequate and intelligent maintenance and caretaking of recreation sites are important phases of recreation administration.

Far more of the general public participate in recreation than in any other public land use. This use centers largely at recreation sites and will increase as more sites and facilities are developed. In consequence, these areas are of direct interest to great numbers of people whose sole contacts with and impressions of the Bureau of Land Management are acquired in this manner.

In addition to recreational enjoyment, investment in improvements, scenic qualities, and similar assets, each recreation site is a potential source of public contact and good will for BLM activities in general.

Not only is the public's enjoyment, impressions, or receptiveness affected by the conditions encountered, but their treatment of the sites is in direct relation to these conditions. Well-kept improvements are appreciated and respected. Poorly maintenanced ones are treated carelessly and wantonly and create unfavorable impressions.

Children are notoriously careless and adventurous and grown-ups aren't always too careful. Because of this, and since one accident which can in any way be attributed to faulty management on our part can counterbalance much excellent public relations work, it is particularly essential that every effort be made to insure that our recreation sites are as accident-proof as possible.

Efforts shall be directed toward keeping areas neat, healthful, safe and attractive, yet with fine regard for maintaining and safeguarding the atmosphere of natural environment.

The maintenance of recreation sites consists of three distinct phases, light and heavy maintenance and caretaking.

B. Cleaning and Policing

Included in this category are all the jobs which must be done, exclusive of maintenance, to keep the site and improvements in clean, safe, and serviceable condition.

1. Cleaning and policing sites

Camp and picnic sites will be policed on a regular and planned basis. Frequency will vary with the kind and volume of use. Excessive or unnecessary cleanup may detract from the

appearance of an area; for example, sweeping or raking off leaves and forest litter. Ingenuity is necessary to determine the proper degree of cleanup which will make a site appear clean and well kept but will be appropriate to the forest environment. Sites which are used almost exclusively on weekends or during peak periods will be policed at least on the day preceding and following the period of use. Each site will be covered in a complete and systematic manner, with proper attention being given to fringe areas, stream beds, beaches and brush clumps. All trash and debris should be gathered and placed in garbage containers or incinerators. The use of a nail-tipped stick and trash sack will speed up the job by reducing the amount of bending necessary and eliminating needless trips. In the course of this work, nails and wire should be removed from trees and trash left on picnic tables should be removed.

2. Cleaning and policing facilities

Every facility will be kept in clean and sanitary condition so that it may serve the purpose for which it is provided in a convenient, safe and sanitary manner.

a. Fireplaces: Fireplaces will be regularly serviced; ashes and unburned trash will be removed from grates and pits; grease and bits of food clinging to grates will be cleaned away. As needed, fireplaces and the area immediately surrounding them will be sprayed with an effective insecticide.

b. Tables: Soiled and greasy tables are neither safe, pleasant, or convenient to use. They will be scrubbed, using water and soap or detergent as frequently as may be necessary to keep them acceptable.

c. Toilets: All toilets will be serviced as frequently and intensively as necessary to sustain an acceptable standard of cleanliness.

(1) Scrub the toilet lid, seat, and bowl regularly, using a long-handled brush. First, apply s trong detergent solution, then rinse with water; next, apply a suitable disinfectant mixed as directed by the manufacturer. Rinse again with clean water.

(2) Clean walls and floors as above, except that the disinfectant step is only necessary when a deodorizing effect is desired.

(3) Check and adjust the toilet lid to see that it closes properly.

(4) Fill paper containers.

(5) Apply insecticide as required.

(6) Check pits at least monthly to see that waste level is not above 75-percent capacity. At 75 percent, services of a commercial sanitary disposal unit are required to empty the pit, or toilet should be closed. Check regularly to see that pit is properly sealed.

If pit odors are unreasonably offensive or if natural reduction of waste is not occurring at a normal rate, a bacterial activator should be introduced as suggested by the manufacturer. The practice of using lime on pits is of doubtful value. The free chlorine tends to inhibit bacterial action and is not effective against insects or larva except in the immediate area of concentrated application. The effect of lime in reducing the volume of organic waste is limited unless very large quantities are used, and this process is much less efficient than fermentation. Spray pits with insecticide at least once or twice each month during fly season.

C. Test, Clean and Treat Water Supplies

Water supplied for human consumption must be tested and treated as necessary to protect public health. Tests will be made in full compliance with the requirements of state and local public health boards at intervals not greater than those prescribed as standard by the boards.

1. For testing, obtain several laboratory-sterilized bottles from the state board of health. Tests of water from non-sterile receptacles are not reliable.

2. See that bottles are tightly capped. Do not open until the instant before the sample is taken.

3. Take sample. First attach a length of clean cotton string to bottle. Pour alcohol over string and bottle. Allow to dry. Remove cap and quickly take sample. Recap.

4. Complete data sheet and forward to nearest state board of health testing laboratory as promptly as possible. Hints for taking samples should be; clean hands, do not breathe or cough toward open bottle, avoid taking sample in high wind in order to minimize possibility of contamination by airborne bacteria. If bottle is inadvertently contaminated, do not use.

5. If a positive laboratory report is received, the district manager will take prompt action to post suitable notices warning that the water is unsafe for human consumption.

The supply will be made unavailable to the public. These conditions will be maintained until corrective measures have been taken and negative test is obtained. All laboratory test reports will be kept on file as a permanent record of the history of the water system.

6. Consult the state board of health for methods and procedures to decontaminate the supply.

D. Garbage Disposal

Garbage disposal at best is a rather unpleasant job; but, if properly managed, the unpleasant aspects can be minimized. If neglected, garbage and other refuse pose a serious threat to public health and safety; seriously detracts from public use and enjoyment of the site, and becomes progressively more difficult and disagreeable to handle. A few basic principles apply:

DO

Keep all cans, pits, and incinerators tightly covered to exclude insects and rodents. Treat or collect garbage at frequent intervals to interrupt the life cycle of flies (about 6 days under most conditions). Utilize legal garbage dumps or provide convenient sanitary fill areas for final disposal. Avoid the use of makeshift equipment. Fit devices to the job.

DO NOT

Allow the public to burn trash or garbage in cans, pits, or incinerators. Allow cans or pits to overflow. Allow any device to create a public nuisance or hazard.

1. Cans

Garbage cans will be conveniently located to the unit which they are intended to serve. Make provision for regular collections in order to avoid unsanitary and unsightly conditions. Each time a can containing wet or moist refuse is emptied, the bottom and sides should be dusted with chloride of lime or other effective chemicals which will dry and deodorize the receptacle.

The lid, exterior of can, and ground within a radius of 2 or 3 feet should be sprayed with an insecticide. The interval for spraying depends upon the season of year, degree of use, and kind of insecticide used.

The 30-gallon, heavy-duty garbage can is recommended, but oil drums,if properly covered and cut down, will be acceptable. Use of containers in excess of 30-gallon capacity is prohibited by law in some localities due to high incidence of hernia in lifting.

2. Pits

Pits are difficult to clean, and the odors from them are difficult to control. Therefore, the use of pits is recommended only in small isolated areas receiving relatively light use.

Pits must be provided with tight-fitting covers of metal, wood, or concrete so attached as to be safe.

Pits should be periodically sprayed with insecticides and treated with chemicals to control insects and reduce odors. When safe, pits should be burned out. Waste oil and old tires help produce necessary heat.

E. Materials and Supplies

A suggested list of cleaning materials follows:

1. Insecticides

DDT residual sprays (5% to 10%)
Chlordan sprays, (Chlordame, Octa-Klor, Velsicol 1068)

2. Disinfectants

Anabac (Wyandotte Chemical Co.)
Chloride of lime (calcium hypochlorite) 30%
Drizit (a drying and cleaning agent, not specifically disinfectant)
Hightest Hypochlorite (HTH) (70%)
Standard Supergermide (Standard Oil Co.)

3. Soaps, solvents, and detergents

Tide, Vel, etc.

4. Bacterial activators

Septonic, Enzymatic, Paw-paw Powder, Trypsin, Yeast

F. Firewood

Firewood is a necessity at most heavily-used camp and picnic sites. In order to forestall damage to trees and wooden structures caused by visitors securing fuel, the BLM will see that suitable wood supplies are made available. Ordinarily firewood will be furnished in fireplace length and delivered to a central service area in the site. Examples of situations which must justify the expense are:

1. Where users are not accustomed to carrying an axe.

2. Where the maintenance and/or service job is actually lessened by this practice.

G. Light Site Maintenance

1. Light maintenance

In this category are all the minor but important repair jobs usually performed by maintenance personnel during the recreation season in conjunction with the operation of developed sites. It includes safety items which must be repaired on the spot, and those adjustments or repairs which must be made currently if the facilities are to serve as intended. Recreation personnel must be trained to handle, detect, and accomplish these jobs. The following is a partial list of common light maintenance jobs:

a. Improvements:

(1) Barriers, traffic control, cattle guards, and fences. Replace, tamp or reset rocks, rails, posts, and other components moved, broken, or destroyed, as necessary to sustain function.

(2) Bridges, foot or vehicle: Replace or repair broken and damaged guard rails and decks to standard of safety and service.

(3) Buildings: Roofs - patch or repair
Foundations - repair or replace screens on vents and ducts, fill or cover holes to exclude insects and rodents.
Walls - remove dirt or sluff in contact with untreated material, patch or repair holes, repair or replace broken doors, hinges, windows, locks, springs, handles and screens. Remove obnoxious writing.

(4) Interior: Repair or replace broken seats and fixtures. Repair floors to point of safety.

(5) Fireplaces and stoves: As necessary to sustain function during current season, replace or repair nonfunctioning components.

H. Heavy Maintenance

Heavy or periodic maintenance often involves the use of special equipment or the application of special skills. Crews of two or more men are usually needed and constant supervision at the foreman level may be required.

1. Improvements

a. Barriers, traffic control, cattleguards and fences. Replace defective sections, replace cables, posts and rails.

b. Bridges, foot and vehicle

(1) Install new decks and/or guard rails

(2) Replace stringers

(3) Extend, shore or reinforce abutments or piers.

c. Buildings

(1) Roofs - recover, or replace broken sections.

(2) Foundations - reinforce, repair, raise, level.

(3) Walls - paint or stain, replace if unserviceable.

(4) Interior - paint, replace fixtures, doors.

d. Fireplaces and stoves

(1) Replace or repair grates.

(2) Replace or repair side walls

e. Garbage cans and pits

(1) Paint and stencil cans

(2) Empty pits or relocate

(3) Prepare or cover sanitary fill areas

f. Pits and septic tanks

(1) Pump out or otherwise empty and remove obstructions

(2) Repair apron, covers, lids and vents

g. Roads, parking lots, and parking spurs

(1) Spot surface, patch, shape, pull ditches

(2) Remove undesirable overhanging or intruding brush

(3) Replace or repair culverts

h. Signs and bulletin boards

(1) Remove for maintenance if mutilated

(2) Replace defective backs, posts, tops

(3) Oil or stain

i. Steps

(1) Replace or repair guardrails, risers, tread

j. Tables and benches

(1) Replace or repair tops, backs, seats

(2) Repair foundations, and level

(3) Paint, stain or otherwise treat surface

k. Toilets

(1) Replace or repair defective bowls, seats, lids

(2) Paint as directed

l. Trails and paths.

Replace water bars, restore tread, grade and drain

m. Water systems

(1) Paint exposed metal surfaces

(2) Replace or repair pump, motors, and associated parts

n. Site

(1) Check dams, gully plugs and water spreaders. Clean sediment traps, repair cracked or broken concrete or masonry sections. Repair washouts, level, fill, or treat gullies and drills.

(2) Snags, dead limbs. Check entire area. Remove all danger trees.

(3) Firelines or firebreaks. Plow, clear or otherwise restore to full effectiveness.

(4) Miscellaneous

(a) Revegetate as necessary

(b) Replace screen plantings which have failed

o. Garbage cans and pits

Replace or repair damaged or missing lids, covers, and handles.

p. Roads, parking lots and parking spurs

(1) Clean culverts and drains

(2) Divert water from surface

(3) Drain and fill chuck holes

(4) Remove or cover dangerous protruding rocks.

q. Signs, bulletin boards and register boxes

(1) Replace old and mutilated signs

(2) Straighten and tamp leaning posts

(3) Tighten lag screws and bolts

(4) Stain backs and posts as needed

(5) Maintain supply of register forms and pencils

r. Steps

Level, tighten or replace loose, cracked or broken treads

s. Tables and benches

(1) Tighten bolts

(2) Remove splinters

(3) Oil or stain as needed

(4) Replace or repair broken or dangerous sections.

t. Toilets

(1) Replace or repair broken seats or other parts.

(2) Tighten bolts and adjust lids

u. Trails and paths

(1) Brush out as necessary

(2) Divert water, repair waterbars

v. Water systems

(1) Replace broken or worn parts

(2) Keep pumps and springs in clean, safe, operating conditions

2. Site

a. Check dams, gully plugs and water spreaders

(1) Repair as necessary to sustain function

(2) Extend to cover washouts, new drills and gullies

b. Snags, dead limbs and other hazards

Remove

c. Fire hazards

Remove or reduce

d. Miscellaneous

(1) Remove nails and wire from trees, remove tent ridgepoles, cooler boxes and other improvisions.

(2) Remove, dismantle or otherwise take out of service any item which constitutes a safety hazard and cannot be placed in acceptable condition at the time.

I. Tools and Equipment Required for Caretaking and Light Maintenance

Following is a general list of equipment needed for caretaking and light maintenance work. A special tool box equipped with necessary tools and supplies will not only facilitate the work, but insures having the necessary equipment on hand when needed. Additional equipment may be added as the particular needs may warrant or as individuals prefer.

TOOLS	SUPPLIES
Shovel	Nails
Axe or pulaski	Screws
Bucket	Wire
Rake or lawn broom	Stove bolts
Pruning saw	Sandpaper
Pruning shears	Cleanser
Claw hammer	Chloride of lime
Handsaw	Register blank sheets
Screwdriver	Pencils
Pliers	Calcium chloride
Crescent wrench	Posters (Fire, etc.)
Pipe wrench	Dark grey paint
Broom	Stain
Scrub brush	
Paint brush	
Pinch bar	

J. Methods for Maintenance

Site maintenance can be accomplished by several methods.

1. Contract

A negotiated contract made with an individual or company living in the vicinity for one or more sites provides adequate maintenance with a minimum of cost to the Bureau. Bidder shall furnish all labor, equipment and materials, except if otherwise indicated herein, necessary to perform maintenance work on campsites or picnic sites.

a. Maintenance shall include as minimum:

(1) Removal of all garbage and trash to a legal garbage or trash dump

(2) Picking up litter (paper plates, cans, bottles, etc., not deposited in garbage containers) and removal with garbage. Policing for this purpose shall cover entire area of camping or picnic site.

(3) Sweep all toilet floors and replenish supplies.

(4) Furnish and maintain an adequate supply of fuelwood to each camping or picnic site. An adequate supply shall consist of a minimum of one cord per month, cut to 18" lengths, delivered bi-weekly to site, Additional wood shall be supplied when required. Fuelwood will be dead or down material which may be taken from public land under the jurisdiction of the BLM, from locations to be approved by local BLM field officers.

(5) Minor repair jobs that can be done with ordinary tools such as hammer, saw and axe to any facility as a part of keeping camping and picnic sites in a clean, orderly and useful condition. Major repairs requiring specialized tools or craftsmanship plus materials will be done by the Bureau upon notification by the contractor to the BLM field officer concerned.

(6) All of the above requirements shall be performed on a regular weekly schedule of Monday and Friday, except that the contractor shall perform these services on other days which follow a holiday in addition to the regular schedule.

b. Performance

Supervision of the camping and picnic sites will be under BLM field officers who will check as to the quality or acceptability of maintenance work performed.

c. Payments

Payment for services performed will be made at the end of each month upon receipt of an invoice submitted to the BLM by the contractor.

2. Force Account

Force account crews driving Bureau vehicles may also be utilized for recreation maintenance.

K. Site Regulations

1. Fire precautions

Fires shall not be built in developed recreation sites except in the camp stoves or fireplaces provided. However, gasoline or oil camp stoves may be used with proper precautions in established campsites, picnic sites where other stoves are provided. All fires shall be extinguished by their users before leaving a camping or picnic site.

2. Firearms and fireworks prohibited

Use of firearms and fireworks is prohibited in a camping or picnic site.

3. Protection of vegetation and improvements

Site users shall not pick flowers, foliage, or cut, break, dig up or in any way mutilate any tree, shrub, plant or fern, or burn, cut or mutilate any railing, building, seat, fence or other structure within a camping or picnic site.

4. Occupancy

Camping in designated camping sites is limited to two-weeks' use of site. Treailers are permitted in designated camping sites and similarly limited to two-weeks' use. Trailer occupants shall use site sanitary facilities provided.

5. Dogs and pets on leash allowed

Dogs and other pets shall be allowed on a camping and picnic site as long as they are kept on a leash, or confined in a vehicle.

6. Conduct

Persons using the facilities of the BLM recreation site shall conduct themselves so that they do not infringe on the use, enjoyment, and rights of the general public.

7. Fuel

Where fuel is not supplied, only dead or down timber may be used for fuelwood.

L. Recommended Reference Sources

1. The National Conference on State Parks in cooperation with the National Park Service provides three information volumes:

   a. Park Practice Grist
   b. Park Practice Design
   c. Park Practice Guideline

2. Forestry Handbook - Society of American Foresters

3. National Park Service Handbooks

4. U. S. Forest Service Recreation, Trails and Sign Handbooks

Form Nc -120
(June 19..)

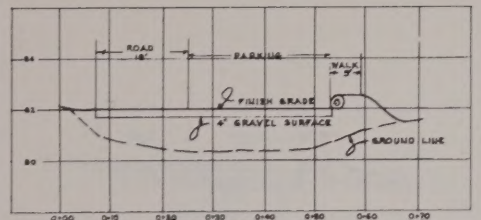
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECREATION SITE REGISTER

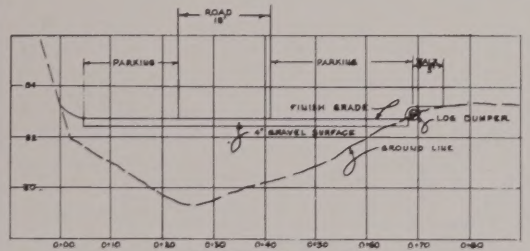
This recreation site has been developed and the facilities thereon have been provided by the Bureau of Land Management. Your cooperation in observing the conservation rules listed below will help to assure that they will be available for your future use. In the event of an emergency contact any Federal , State or County employee. Comments or constructive criticism will be appreciated. Address the State Director, Bureau of Land Management, 710 N.E. Holladay Street, Portland 12, Oregon.

DATE	NAME	ADDRESS	OBSERVE THESE RULES PREVENT FOREST FIRES AND PROTECT WILDLIFE	OBJECT OF TRIP					COMMENTS
				CAMPING	FISHING	HUNTING	PICNICKING	OTHER	
			1. **Matches** – Be sure your match is out. Break it in two.						
			2. **Tobacco** – Be sure that pipe ashes and cigar and cigarette stubs are dead. Never throw them into brush, leaves or needles.						
			3. **Campfires** – Use the stoves or fireplaces provided whenever possible. **Otherwise** – scrape away all inflammable material from spot at least 5 feet in diameter. Build fire in center and keep it small. Never build fire against trees, logs or near brush.						
			4. **Breaking camp** – Do not leave until your fire is dead out. Stir the coals while drowning with water. Wet ground around fire. If water can't be had, stir in dirt and tread down tight over and around fire. Be sure the last spark is dead.						
			5. **Firearms and fireworks** – Use of firearms or fireworks in a camping or picnic site is prohibited **at all times.**						
			6. **Keep camp clean** – Burn or bury all refuse, cans or garbage or deposit in garbage can or pit when available.						
			7. **Water supply** – Keep water supply free from pollution. Never contaminate with any type refuse or by washing clothing, body or food therein.						
			8. **Camping** – Time limit in camping site is 2 weeks. Trailers in designated areas, are limited to 2 weeks.						
			THANK YOU.						

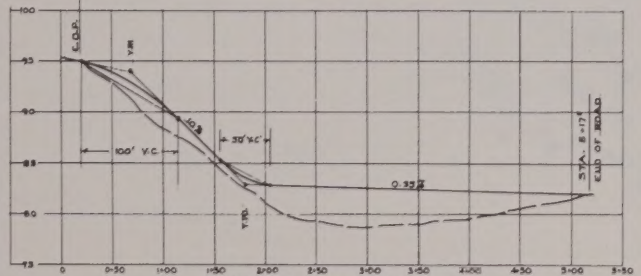
INTERIOR--PORTLAND, OREGON



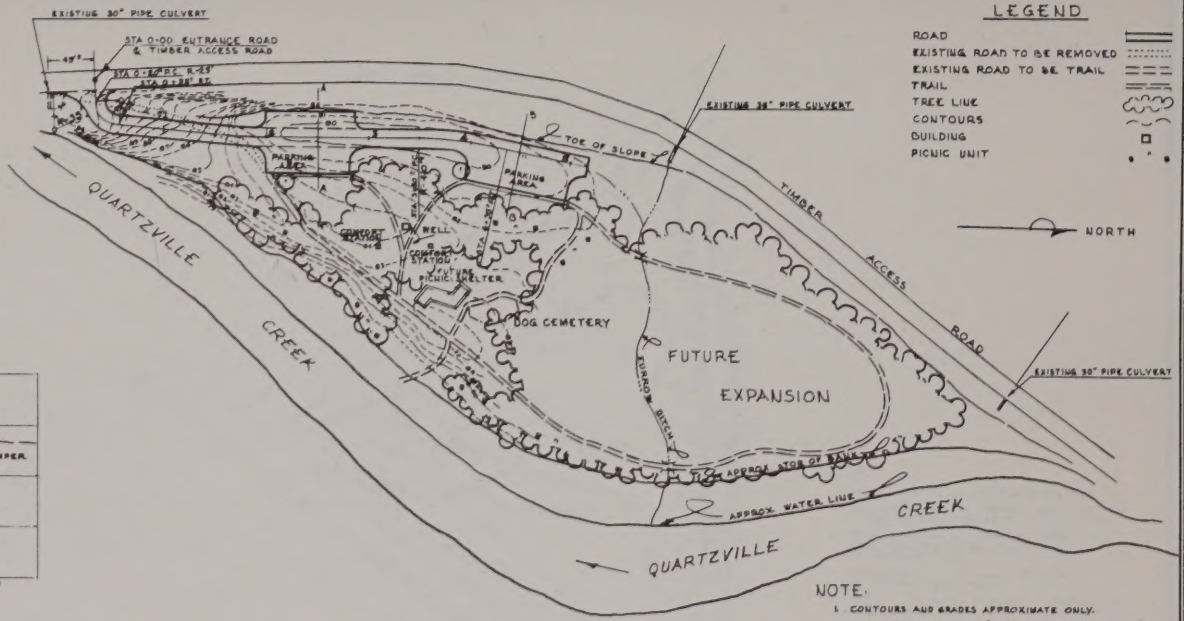
SECTION - B-B
SCALE: HORIZ. 1" = 10'
VERT. 1" = 2'



SECTION - A-A
SCALE: HORIZ. 1" = 10'
VERT. 1" = 2'



ENTRANCE ROAD PROFILE
SCALE: HORIZ. 1" = 30'
VERT. 1" = 8'

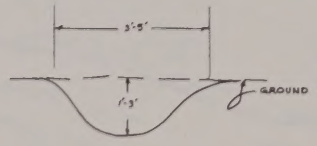


DEVELOPMENT PLAN
SCALE: 1" = 30'-0"

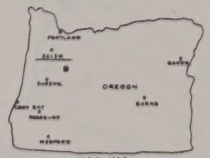
LEGEND
- ROAD
- EXISTING ROAD TO BE REMOVED
- EXISTING ROAD TO BE TRAIL
- TRAIL
- TREE LINE
- CONTOURS
- BUILDING
- PICNIC UNIT

NORTH

NOTE:
1. CONTOURS AND GRADES APPROXIMATE ONLY.
2. B.L.M. BENCH MARK "DOB" ASSUMED ELEVATION 100'
3. ENTRANCE ROAD & PARKING AREA TO HAVE 6" GRAVEL SURFACE.
4. TRAIL ALIGNMENT DIAGRAMMATIC. FINAL LOCATION TO BE DETERMINED IN THE FIELD TO FIT THE EXISTING TREES.
5. FURROW DITCH ALIGNMENT TO BE STAKED IN FIELD.
6. PORTION OF EXISTING ROAD TO BE USED AS TRAIL.
7. WATER SUPPLY TO BE INVESTIGATED TO DETERMINE SOURCE WHETHER FROM WELL OR SPRING.
8. TABLES, FIREPLACES, AND COMFORT STATIONS TO BE STANDARD.



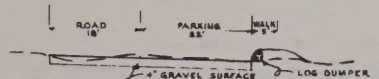
FURROW DITCH SECTION



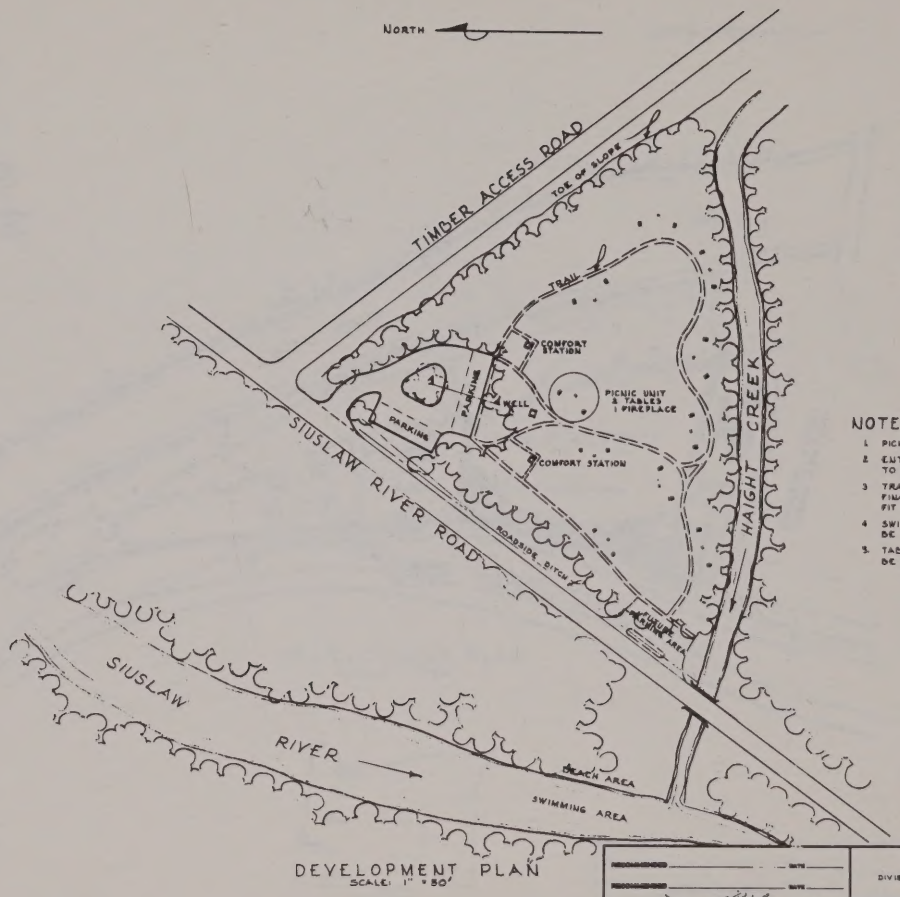
KEY MAP

	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DIVISION OF RECREATION RESOURCE PLANNING PORTLAND, OREGON	REGION 4
ACTG CHIEF, GRAND, NATIONAL PARK SERVICE 7/66	DOGWOOD SALEM DISTRICT OREGON	DRAWING NO. RS OSC 7102
STATE SUPERVISOR, BUREAU LAND MANAGEMENT 7/66		DATE 7-66

Fig. 1



SECTION A-A



DEVELOPMENT PLAN
SCALE: 1" = 80'

NOTE:

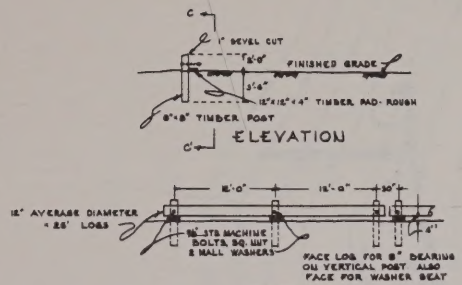
1. PICNIC UNITS TO BE LOCATED IN THE FIELD.
2. ENTRANCE ROAD AND PARKING AREA ELEVATIONS TO BE DETERMINED IN FIELD TO FIT TERRAIN.
3. TRAIL LOCATION AS SHOWN IS DIAGRAMMATIC. FINAL LOCATION TO BE STAKED IN FIELD TO FIT EXISTING TREES.
4. SWIMMING AREA AND BEACH DEVELOPMENT TO BE DETERMINED IN FIELD.
5. TABLES, FIREPLACES, & COMFORT STATIONS TO BE STANDARD.

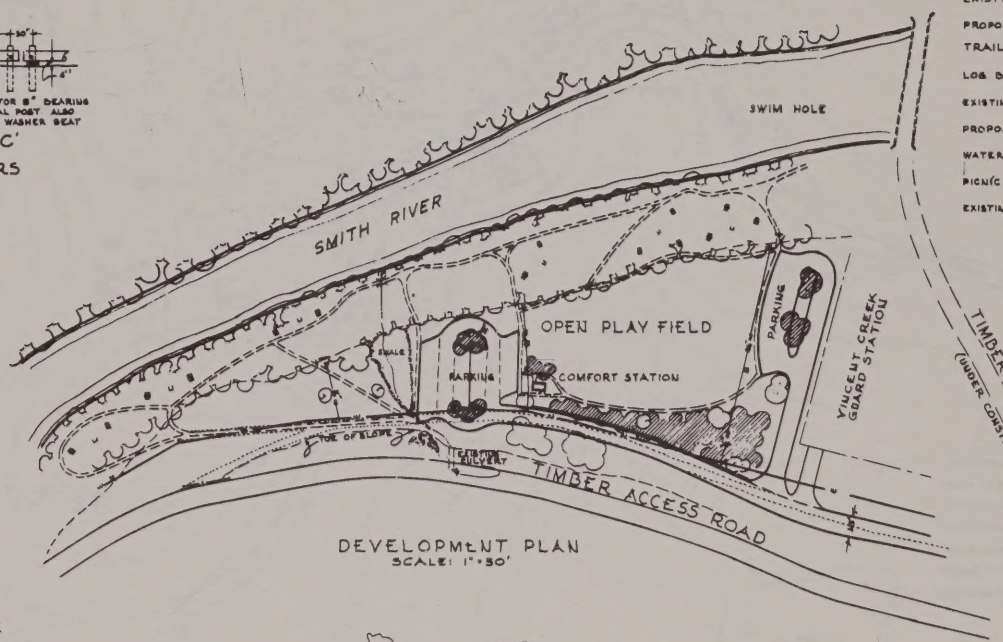
KEY MAP

BASIC DATA

RECOMMENDED: ACTG. CHIEF, CASCADE REGIONAL PARK SERVICE — DATE 7/60	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DIVISION OF RECREATION RESOURCE PLANNING PORTLAND, OREGON	REGION 4
APPROVED: STATE SUPERVISOR, BUREAU OF LAND MANAGEMENT — DATE 7/60	HAIGHT CREEK EUGENE DISTRICT O & C LAND	DRAWING No. RS O&C-7103 DATE 7-60

Fig. 2





Note:

1. TRAIL LOCATION IS DIAGRAMMATIC. FINAL ALIGNMENT TO BE DETERMINED IN FIELD.
2. COMFORT STATION TO BE STANDARD LATRINE.
3. ENTRANCE ROAD AND PARKING AREAS TO HAVE 4" GRAVEL SURFACE.
4. LOG BARRIERS TO BE CREOSOTE OR PENTA TREATED BEFORE INSTALLATION.
5. TABLES & FIREPLACES TO BE STANDARD.
6. ENTRANCE ROAD TO BE EXTENSION OF VINCENT CREEK GUARD STATION ACCESS ROAD.

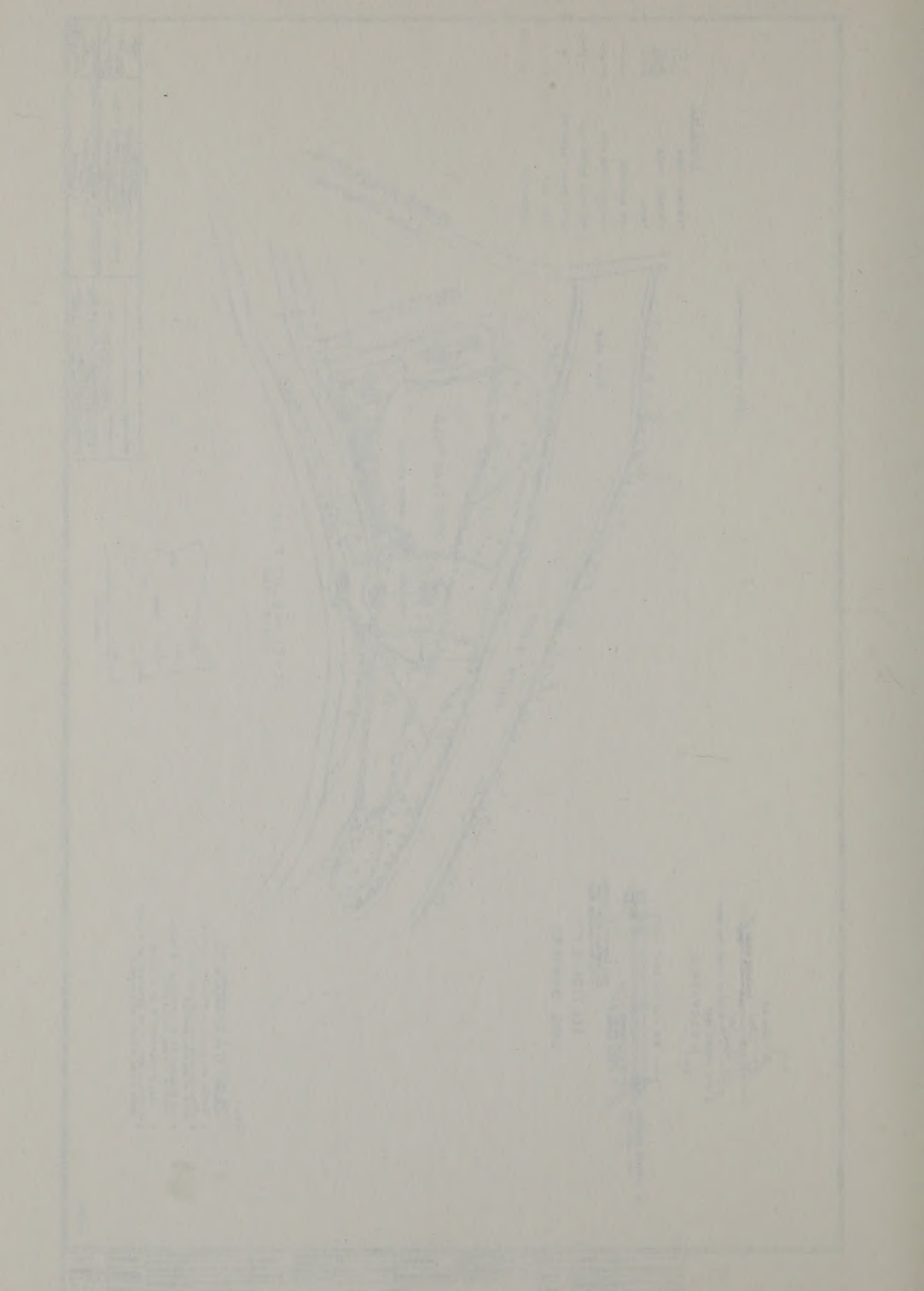
RECOMMENDED: _____ DATE: _____	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DIVISION OF RECREATION RESOURCE PLANNING PORTLAND, OREGON	REGION 4
RECOMMENDED: _____ DATE: _____ DISTRICT MANAGER		PDP No.
RECOMMENDED: _____ DATE: 7/6/62 ACTG CHIEF CRSO, NATIONAL PARK SERVICE	VINCENT CREEK GUARD STATION REC. AREA COOS BAY DISTRICT OREGON	SHEET 1 OF 1
APPROVED: _____ DATE: 7/6/62 STATE SUPERVISOR, BUREAU LAND MGT.		DRAWING No. RS 0-C 7104
		DATE 7/62

SCALE

BASIC DATA

DRAWN BY A.J.L.
CHECKED BY D.K.C.

Fig. 3



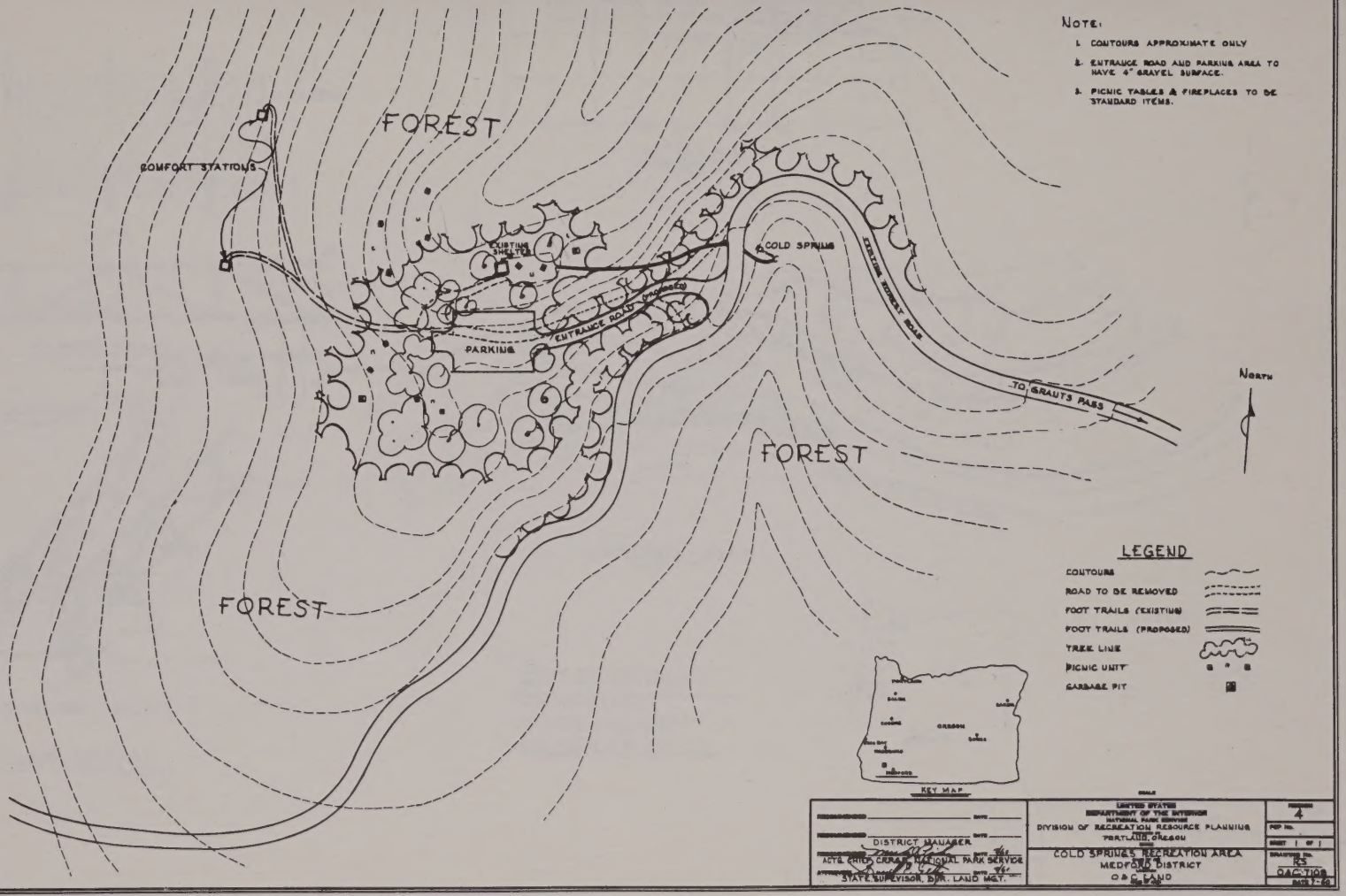
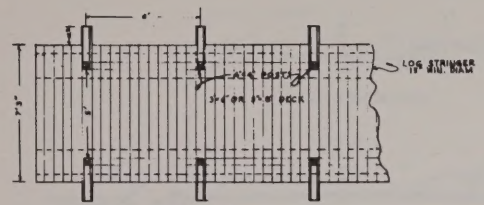
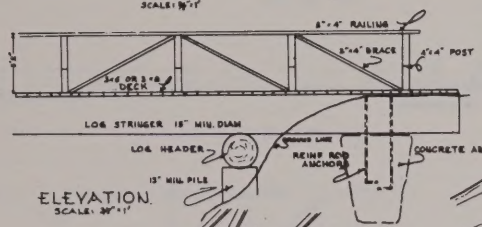

NOTE:
1. CONTOURS APPROXIMATE ONLY
2. ENTRANCE ROAD AND PARKING AREA TO HAVE 4" GRAVEL SURFACE.
3. PICNIC TABLES & FIREPLACES TO BE STANDARD ITEMS.
FOREST
COMFORT STATIONS
EXISTING SHELTER
COLD SPRINGS
EXISTING SECONDARY ROAD
ENTRANCE ROAD (proposed)
PARKING
TO GRANTS PASS
North
FOREST
FOREST
LEGEND
CONTOURS
ROAD TO BE REMOVED
FOOT TRAILS (EXISTING)
FOOT TRAILS (PROPOSED)
TREE LINE
PICNIC UNIT
GARBAGE PIT
KEY MAP
DISTRICT MANAGER
ACTG. CHIEF, CRRAO, NATIONAL PARK SERVICE
STATE SUPERVISOR, BUR. LAND MGT.
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF RECREATION RESOURCE PLANNING
PORTLAND, OREGON
COLD SPRINGS RECREATION AREA
MEDFORD DISTRICT
O & C LAND
4
SECTION

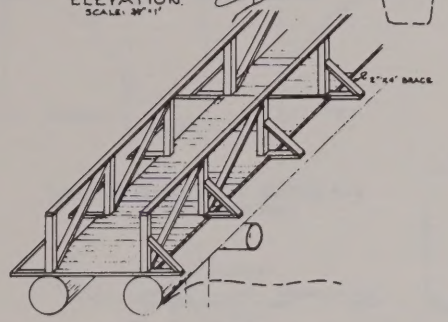
Fig. 4



PLAN
SCALE: 3/8"=1'

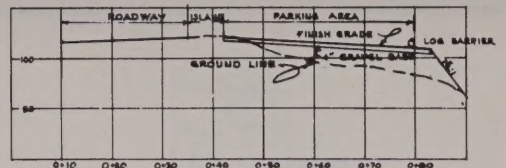


ELEVATION
SCALE: 3/8"=1'

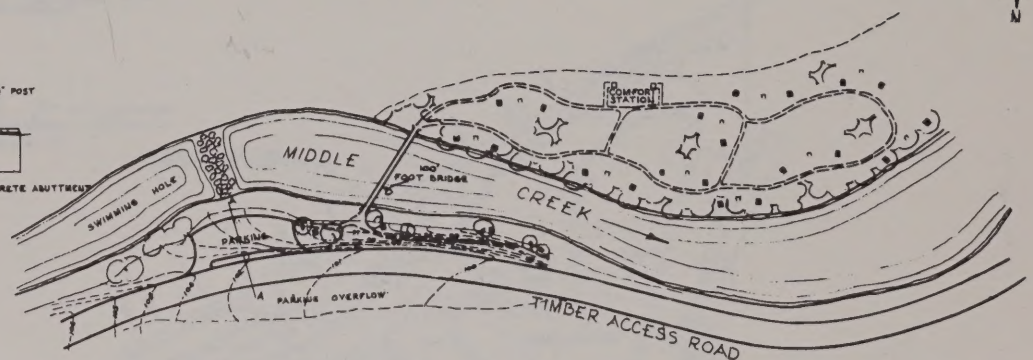


ISOMETRIC VIEW

FOOT BRIDGE



SECTION A-A
SCALE: HORIZ 1"=10'
VERT 1"=8'



DEVELOPMENT PLAN
SCALE: 1"=50'

N

KEY MAP

LEGEND

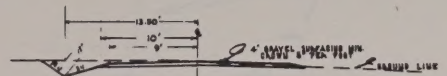
- CONTOURS
- PICNIC UNIT
- TREE LINE
- FOOT TRAIL

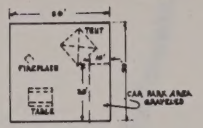
NOTE.

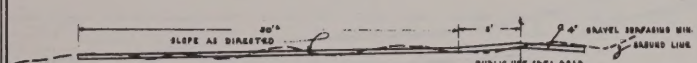
1. CONTOURS APPROXIMATE ONLY AND ARE BASED ON ASSUMED ELEVATION OF 100.
2. COMFORT STATIONS, TABLES, AND FIREPLACES TO BE STANDARD ITEMS.
3. WATER SUPPLY TO BE INVESTIGATED AND DETERMINED AT LATER DATE.
4. BRIDGE MEMBERS TO BE TREATED WITH PRESERVATIVE SUCH AS PENTACLOROPHENOL

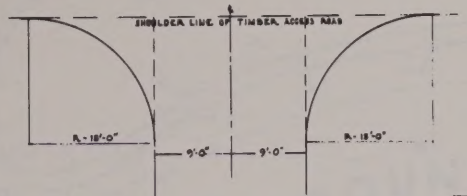
DISTRICT MANAGER ACTG CHIEF, CRRSO, NATIONAL PARK SERVICE STATE SUPERVISOR, BUR. LAND MGT.	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DIVISION OF RECREATION RESOURCE PLANNING PORTLAND, OREGON MIDDLE CREEK RECREATION AREA COOS BAY DISTRICT O & C LANDS	REGION 4 DSP No. SHEET 1 OF DRAWING No. RS OAC-7107 DATE 2-64

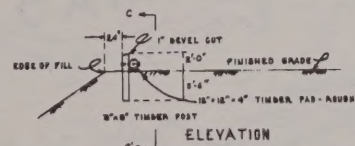
Fig. 5











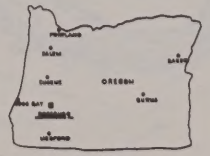
ROAD SCHEDULE

1-1'-1"	TWO-WAY ROAD	18' WIDE
2-B"	PUBLIC USE AREA ROAD	18' WIDE
PARKING AREA	PICNIC AREA	

DEVELOPMENT PLAN
SCALE: 1" = 100'-0"

NOTE:

1. ROAD ALIGNMENT AS SHOWN IS DIAGRAMMATIC. EXACT LOCATION TO BE DETERMINED AND DESIGNATED ON SITE. LOCATION TO FIT EXISTING TREES AND TOPO.
2. ROAD PROFILE TO BE DETERMINED FOLLOWING FINAL FIELD LOCATION.
3. TABLES, FIREPLACES, & CAMPSITE STATIONS TO BE STANDARD UNITS.
4. PUBLIC USE SITES & PICNIC UNITS TO BE LOCATED IN FIELD TO FIT EXISTING NATURAL CONDITIONS.



DISTRICT MANAGER	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DIVISION OF RECREATION RESOURCE PLANS PORTLAND	REGION 4
ACTING CHIEF, NATIONAL PARK SERVICE	ROCK CREEK RECREATION AREA ROSEBURG DISTRICT O.&C. LANDS	DRAWING NO. RS OCC-7100
STATE SUPERVISOR-BUREAU-LAND MGT.		DATE 1-60

Fig. 6

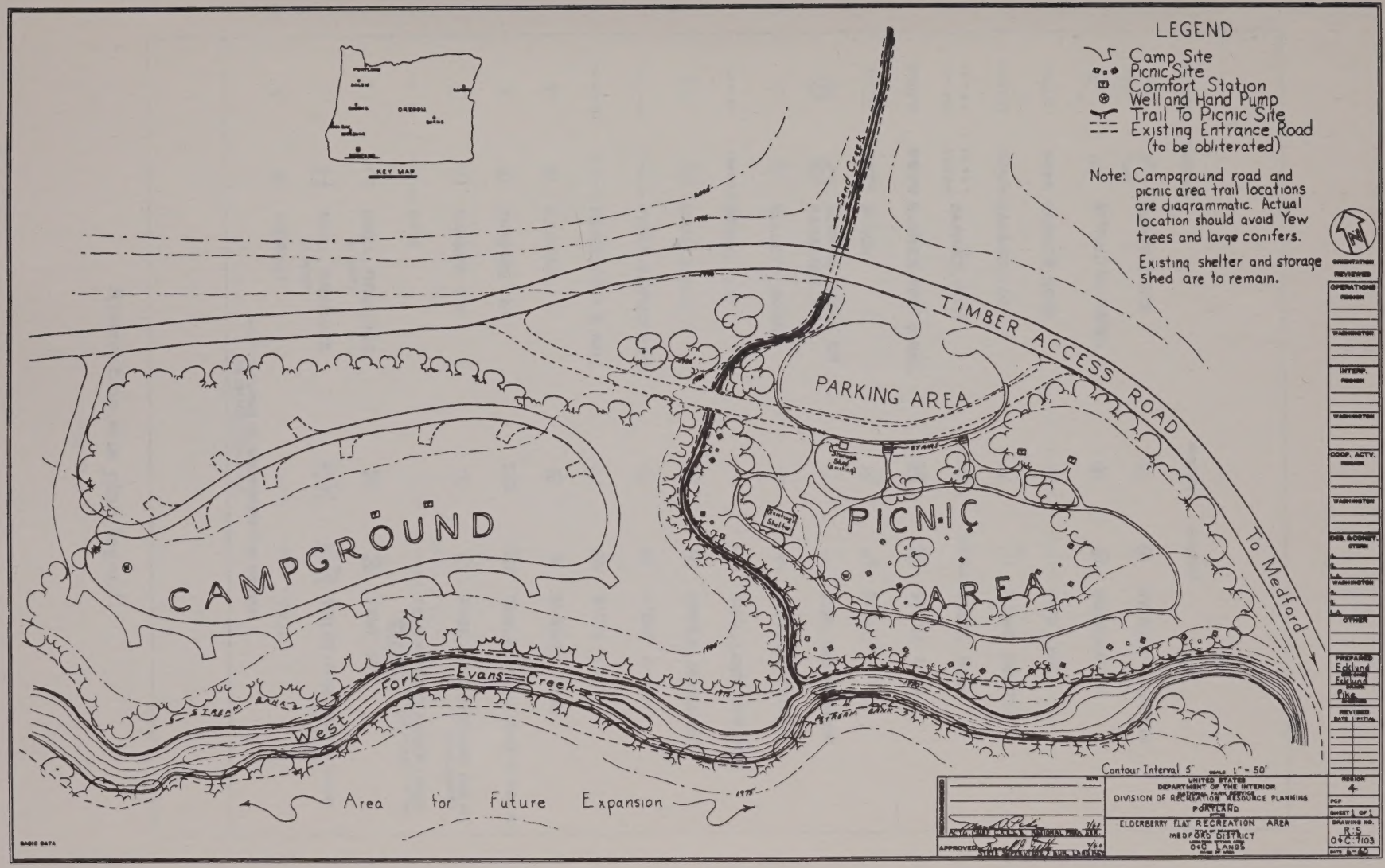
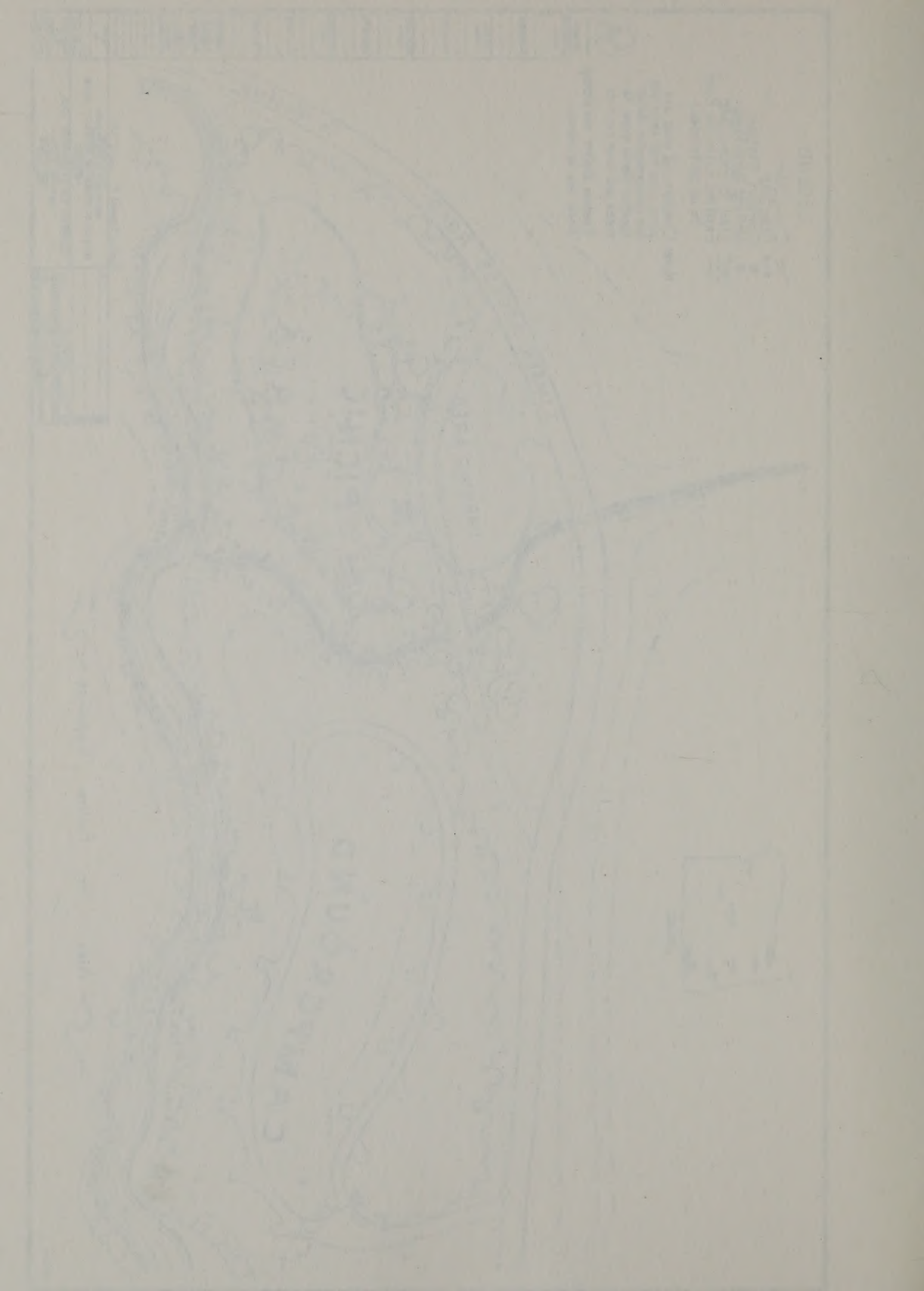
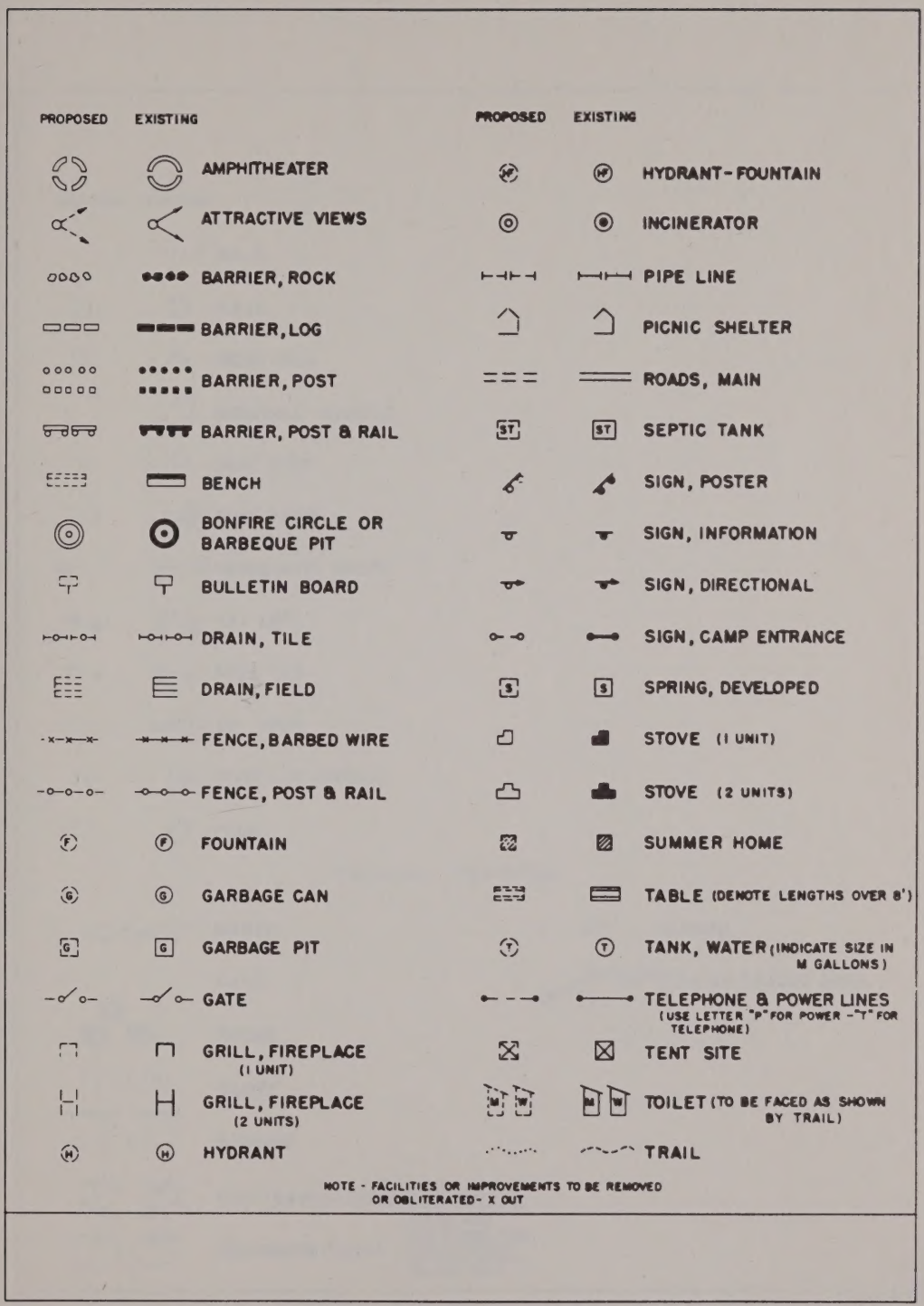

LEGEND
Camp Site
Picnic Site
Comfort Station
Well and Hand Pump
Trail To Picnic Site
Existing Entrance Road (to be obliterated)
Note: Campground road and picnic area trail locations are diagrammatic. Actual location should avoid Yew trees and large conifers.
Existing shelter and storage shed are to remain.
KEY MAP
OREGON
Sand Creek
TIMBER ACCESS ROAD
To Medford
PARKING AREA
START
Storage Shed (Existing)
Shelter
CAMPGROUND
PICNIC AREA
West Fork Evans Creek
Area for Future Expansion
Contour Interval 5'
SCALE 1" = 50'
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF RECREATION RESOURCE PLANNING
PORTLAND
ELDERBERRY FLAT RECREATION AREA
MEDFORD DISTRICT
O&C LANDS
REGION 4
SHEET 1 OF 1
DRAWING NO. R-S O&C-7103
DATE 5-60
RECOMMENDED
APPROVED
PREPARED
REVISED
OPERATIONS REGION
INTERP. REGION
COOP. ACTV. REGION
DES. & CONST. STEMS
OTHER
WASHINGTON

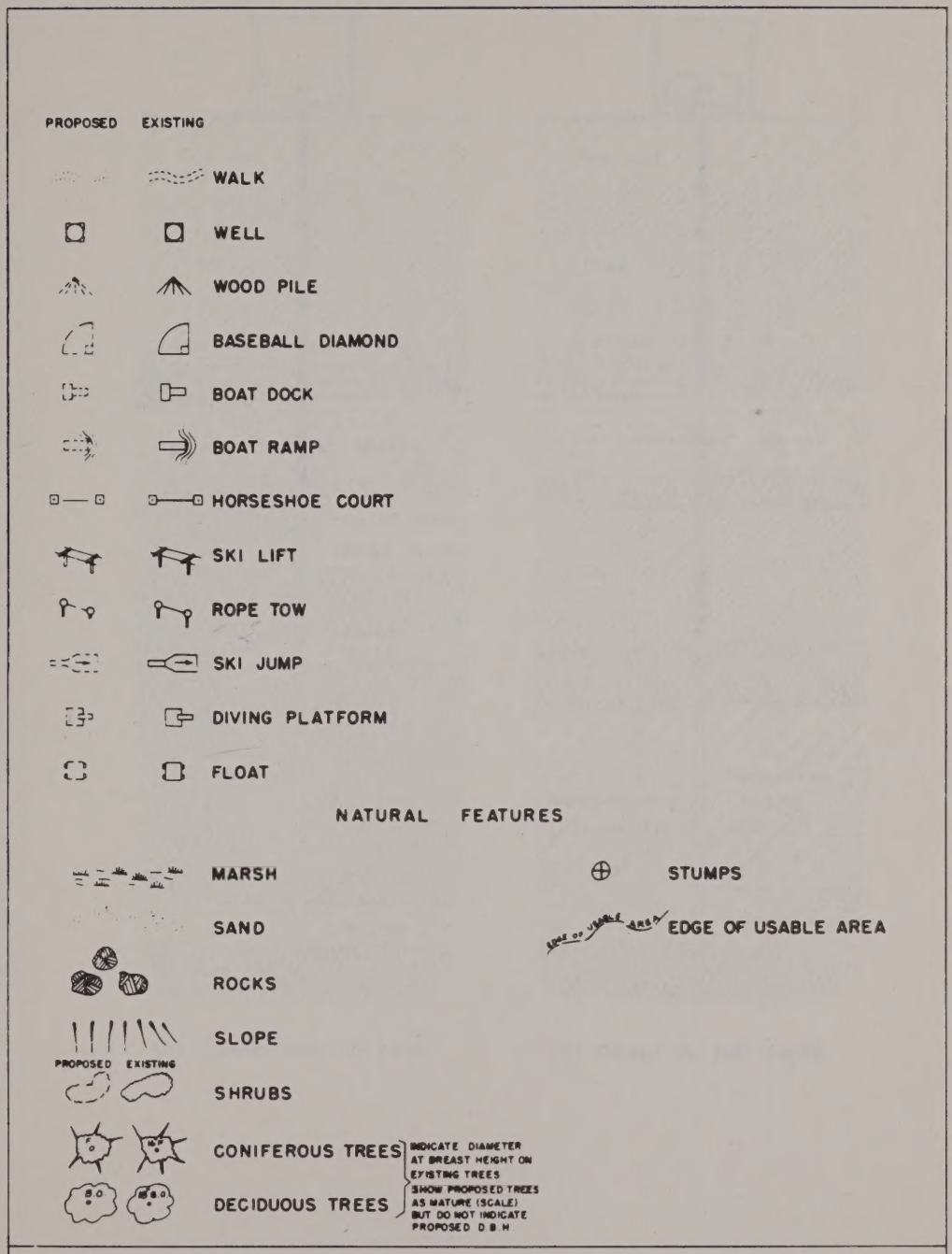
Fig. 7





Recreation site plan legend,

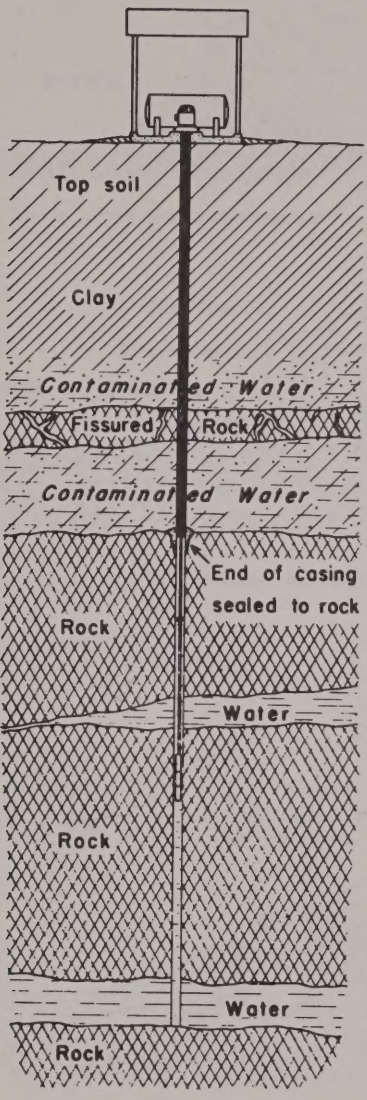
Fig. 8



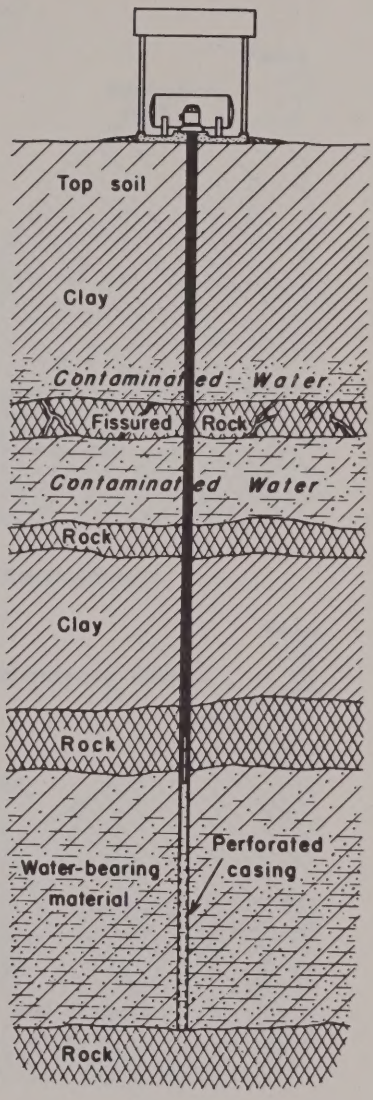
Recreation site plan legend,

Fig. 9

TYPICAL DRILLED WELL CONSTRUCTION



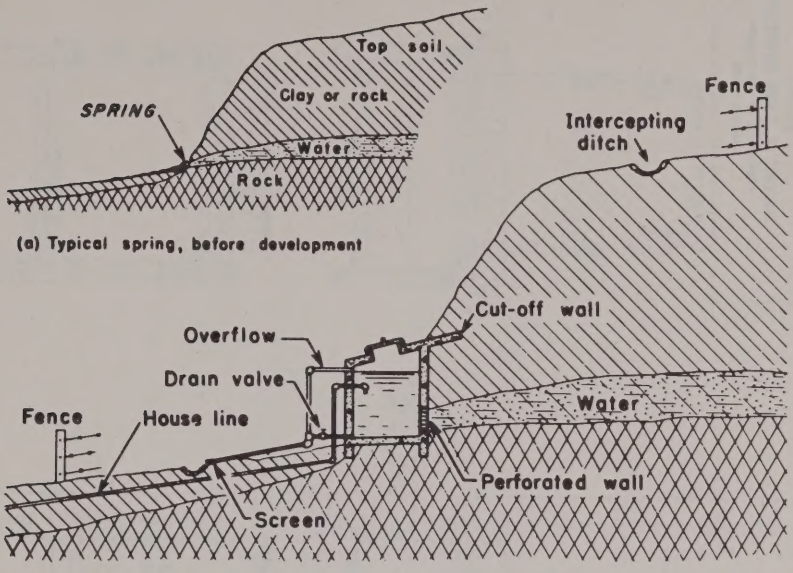
(a) Cased only to rock



(b) Cased to full depth

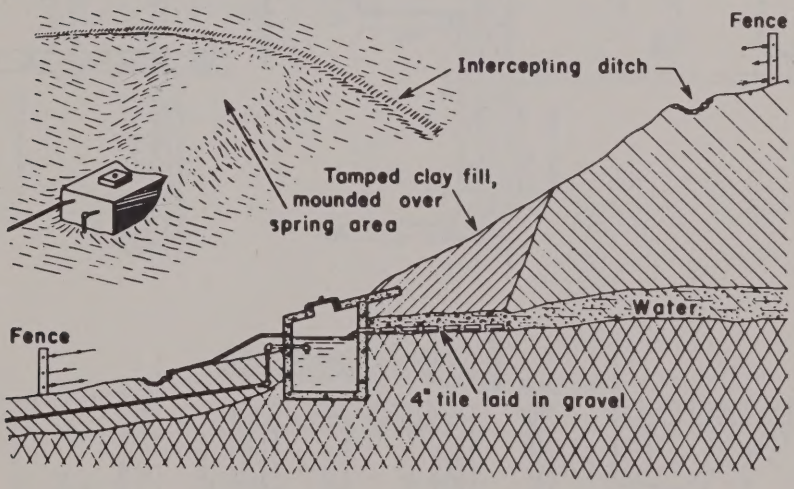
Fig. 10

TYPICAL SPRING CONSTRUCTION



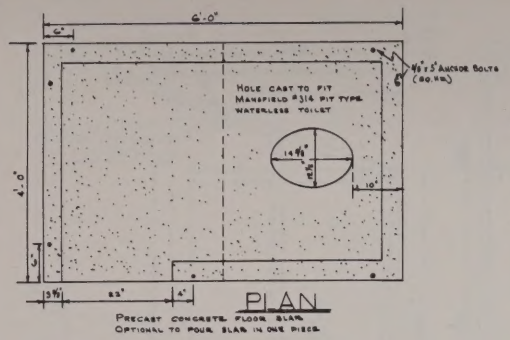
(a) Typical spring, before development

(b) Proper method of development



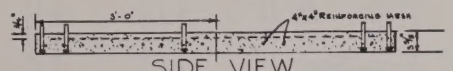
(c) Collection system (to increase yield from slowly-flowing springs)

Fig. 11



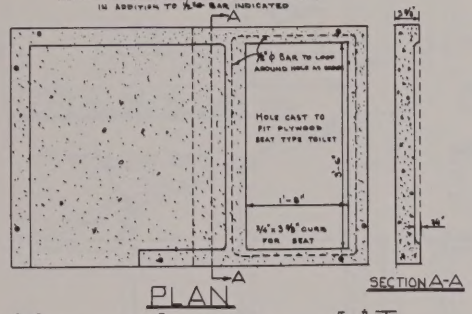
PLAN

Precast concrete floor slab. Optional to pour slab in one piece.



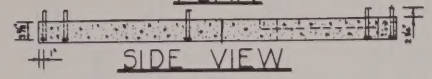
SIDE VIEW

NOTE: 4"x4" Reinforcing mesh used wall slabs in addition to ⅜ϕ bar indicated

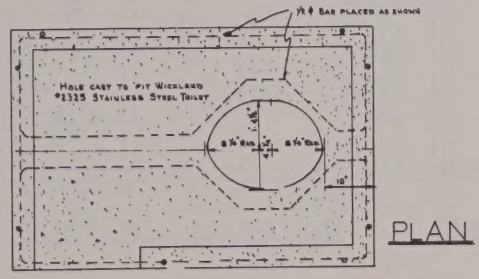


PLAN

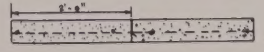
SECTION A-A



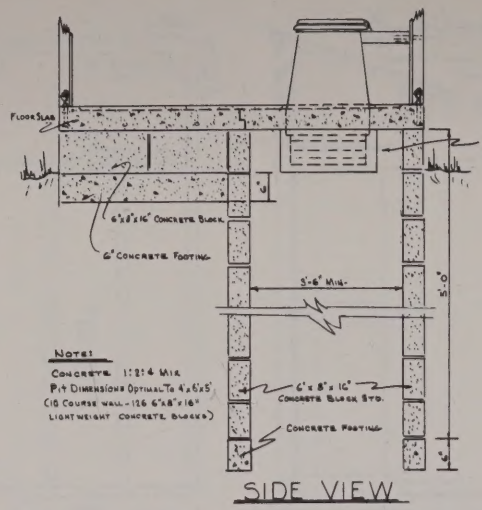
SIDE VIEW



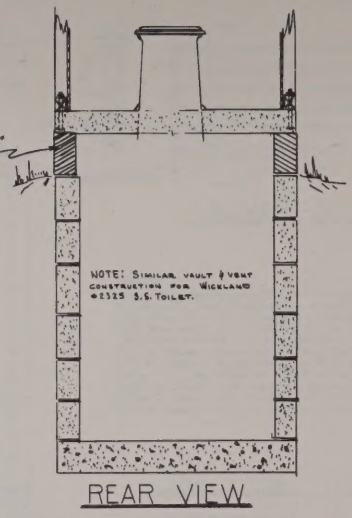
PLAN



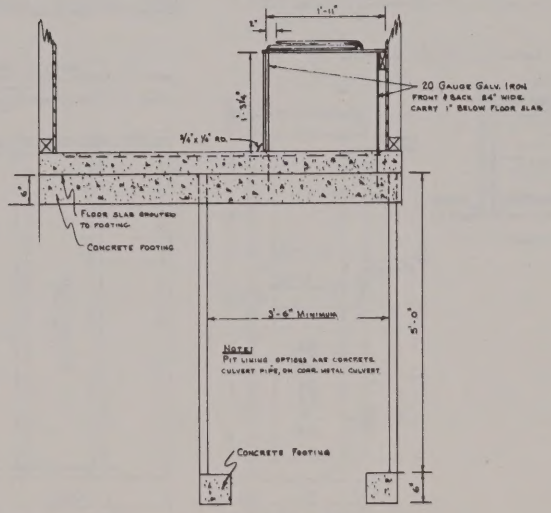
END VIEW



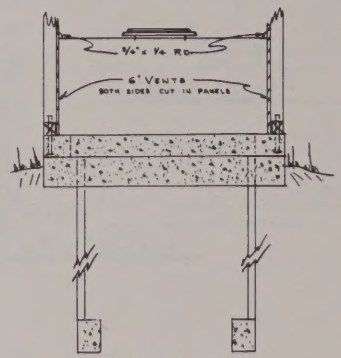
SIDE VIEW



REAR VIEW



SIDE VIEW



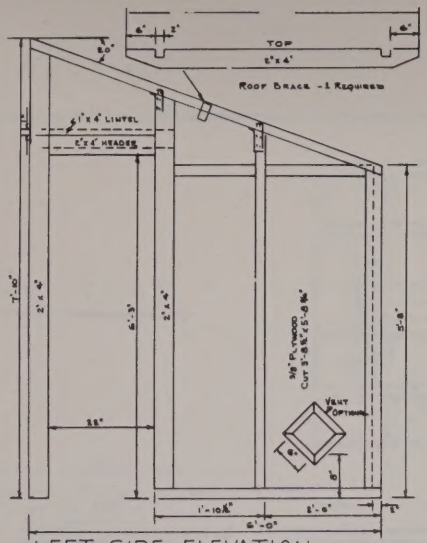
REAR VIEW

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AREA I
OREGON
SINGLE SEAT PIT TOILET
PLAN & SECTIONS

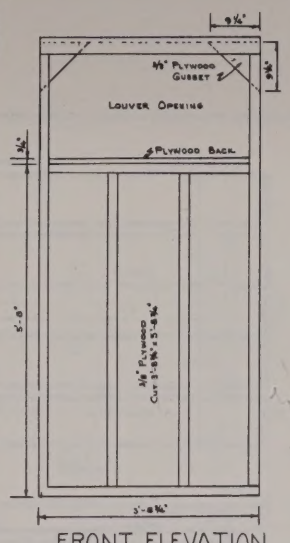
DRAWN JA	SUBMITTED JFB
TRACED JA	RECOMMENDED JFB
CHECKED JFB	APPROVED _____ STATE SUPERVISOR

SHEET 2 OF 2

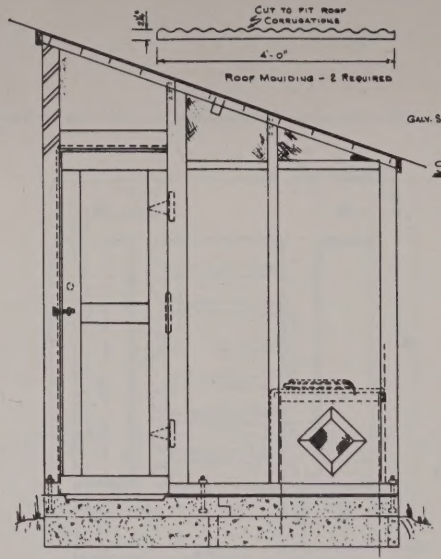
Fig. 12

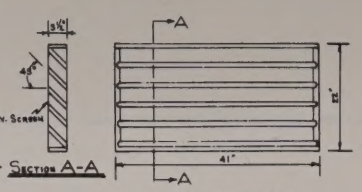


LEFT SIDE ELEVATION



FRONT ELEVATION





LOUVER DETAIL

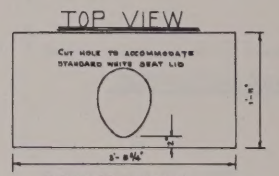
NOTES:

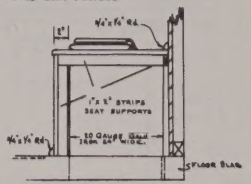
ROOFING SHALL BE 2-26"x96" CORRUGATED PLASTIC SHEETS, MINIMUM .06" THICK, 2½" CORRUGATIONS, SMOOTH SURFACE, WITH THE OPEN END OF THE LAP AWAY FROM THE DIRECTION OF PREVAILING WINDS. NAIL PANELS AT ALL POINTS OF BEARING AT 8" CENTERS WITH 1¾" SPIRAL ALUMINUM NAILS WITH NEOPRENE WASHERS, ALL NAILS SHALL BE THROUGH DRILLED HOLES IN CROWN OF CORRUGATION. SEAL FULL LENGTH OF LAP WITH NON-DRYING SEALING CORD. PANELS SHALL BE PLEXOLITE, YELLOW OR EQUAL.

SCREEN, HARDWARE & NAILS, EXCEPT AS NOTED SHALL BE GALVANIZED.

INTERIOR FINISH - 1 COAT PRIMER - 1 COAT LIGHT BROWN OR GRAY

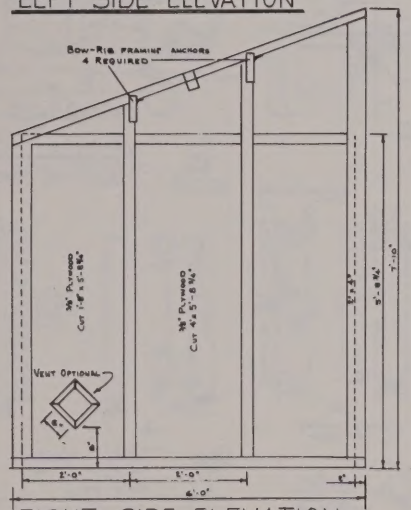
EXTERIOR FINISH - 1 COAT F.P.L. STAIN WOODSIDE, GENERAL PAINT 2SEE87 OR EQUAL.





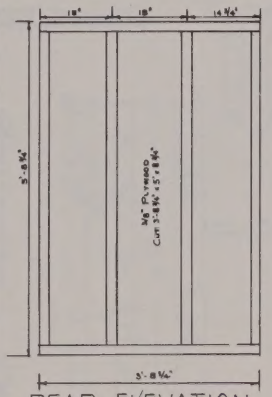
SEAT DETAIL

NOTE:
SEE SHEET #2 FOR OPTIONAL SEAT DESIGNS

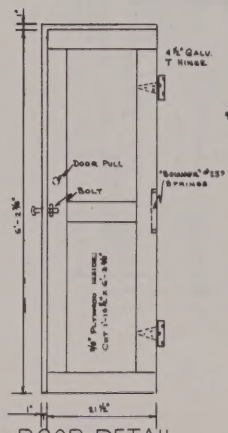


RIGHT SIDE ELEVATION

NOTE:
ALL LUMBER 1" No. 1 COMMON.
ALL FRAMING MEMBERS 2"x3" EXCEPT AS NOTED, NO. 1 COMMON.
ALL PLYWOOD ¾" EXTERIOR D.F.P.A. C-C EXCEPT AS NOTED.



REAR ELEVATION



DOOR DETAIL

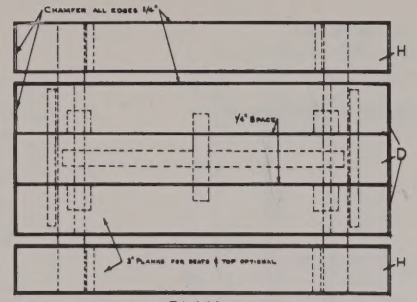
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AREA I
OREGON
SINGLE SEAT PIT TOILET
PLAN & SECTIONS

DRAWN	JA	SUBMITTED	JEB
TRACED	JA	RECOMMENDED	JEB
CHECKED	JEB	APPROVED	STATE SUPERVISOR

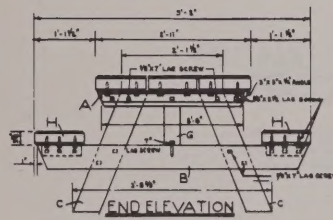
SHEET 1 OF 2

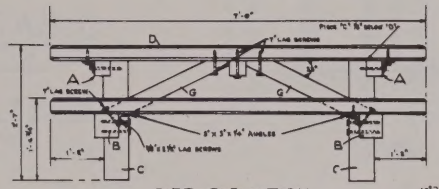
Fig. 13

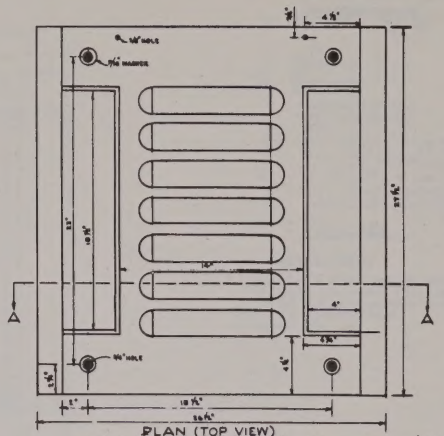
PICNIC TABLE

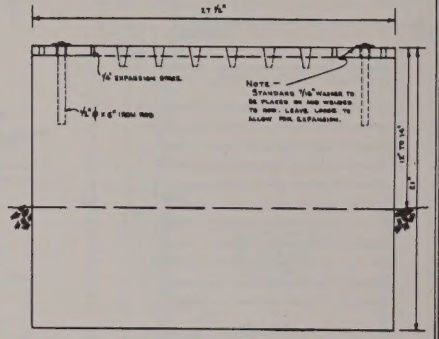


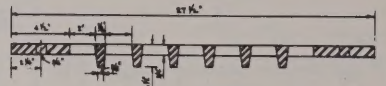
PLAN

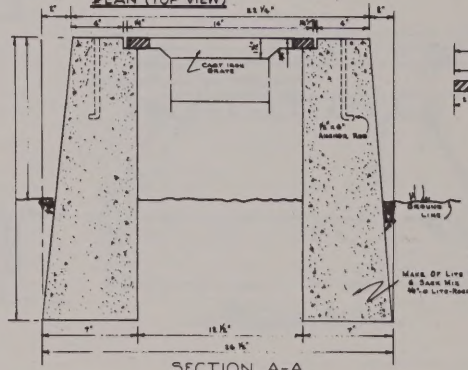




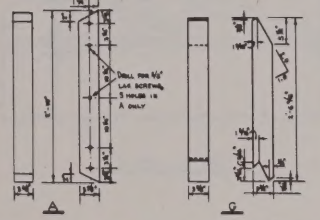


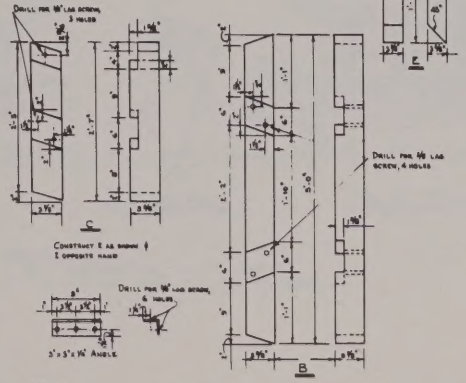






CAMP STOVE





NO.	SIZE	FINISH	NAME	MARK
3	4"x12"x7'-0"	S4S	Top & Seats	D&H
2	6"x6"x3'-0"	"	Seat Supports	B
4	6"x6"x3'-0"	"	Legs	C
2	4"x4"x3'-0"	"	Braces	G
3	4"x4"x3'-0"	"	Table Top Cleats	A
1	4"x 4"x1'-6"	"	Center Cleat	E
2	3"x3"x¼"-2'-6"	GALV.	IRON ANGLES	
4	3"x3"x¼"-9"	"	" "	
24	⅝"x12"	"	LAG SCREWS	
18	⅝"x7"	"	" "	

NOTE:
Paint may be substituted for galvanizing.
Lumber preferred-Cedar or Redwood, other good species optional.
P.P.L. preservative treatment preferred.
Put 8" table extend planks 6" at each end.
Edges of angles to be filed smooth.

Specifications

Structural Steel - ASTM A7-56T
Galvanizing - ASTM A123-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AREA I
OREGON

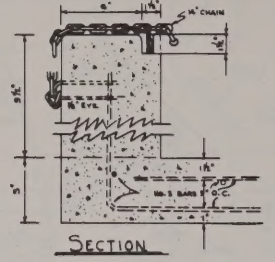
PICNIC TABLE AND CAMP STOVE
PLAN & SECTIONS

DRAWN
TRACED JH
CHECKED JFB

SUBMITTED JFB 10/6/61
RECOMMENDED [illegible] 10/6/61
APPROVED [illegible]
DATE [illegible] SUPERVISOR

Fig. 14

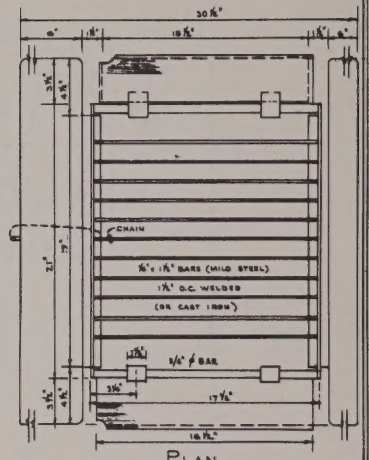
CAMP STOVE



SECTION

CAMP STOVE

1- ALL METAL TO BE MILD STEEL OR EQUAL TO WITHSTAND HEAT (EXCEPT REINF. BARS)
2- CONCRETE SURFACES TO BE SMOOTH & HARD FINISH.
3- ACID STAIN COLORING OPTIONAL
4- PREFABRICATED UNITS



PLAN

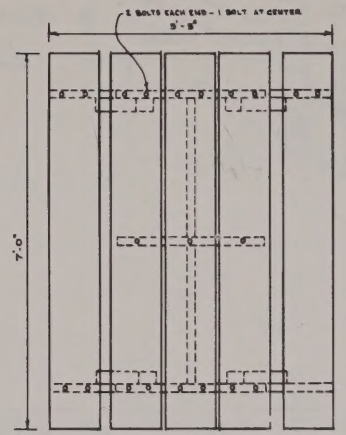
BILL OF MATERIALS	
3	Pcs. 2"x12" 7' Long
1	" 4"x4" 12' "
1	" 2"x4" 14' "
2	" 2"x6" 6' "
23	⅜"x4½" Carriage Bolt
8	⅜"x6" " "

1 Gt. P.P.L. Mocassin #32587

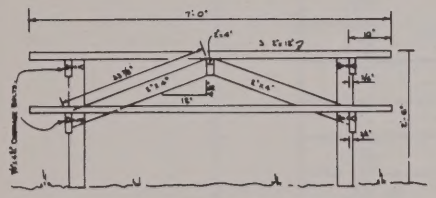
PICNIC TABLE

SCALE: 1"= 1'-0"

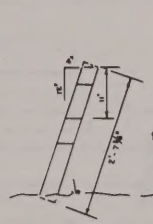
ALL BOLTS SHALL BE GALVANIZED
ALL LUMBER SHALL BE No. 1 COMMON OR BETTER, FREE OF PITCH POCKETS.



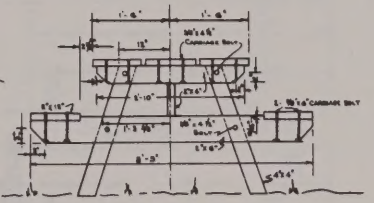
PLAN



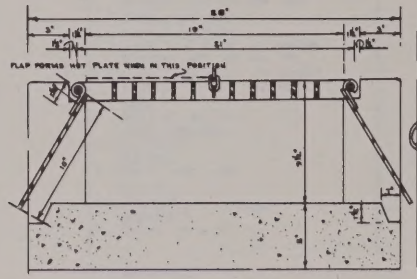
SIDE VIEW



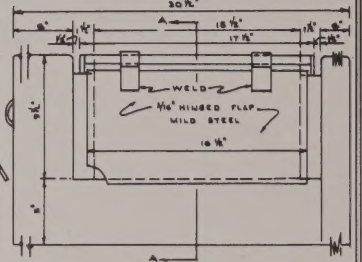
LEG DETAIL



END VIEW



SECTION A-A



END VIEW

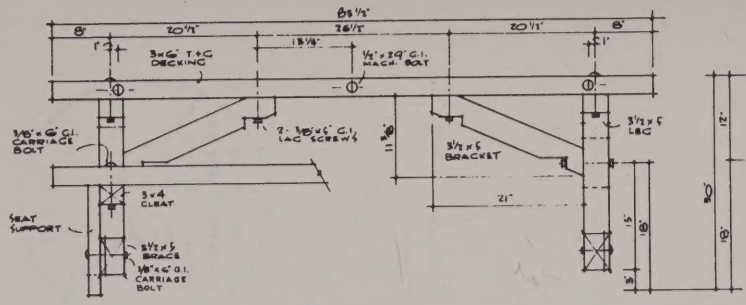
Note:
Paint entire table with 1 coat P.P.L. Mocassin
Color to match General Paint Corp. No. 32587-Mocassin

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AREA I
OREGON

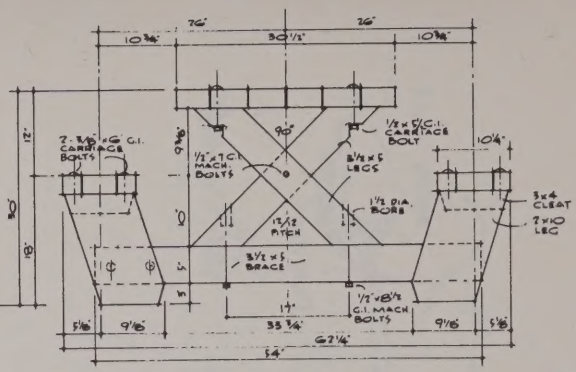
PICNIC TABLE AND CAMP STOVE
PLAN & SECTIONS

DRAWN	SUBMITTED
TRACED TA	RECOMMENDED
CHECKED JAB	APPROVED 11/60

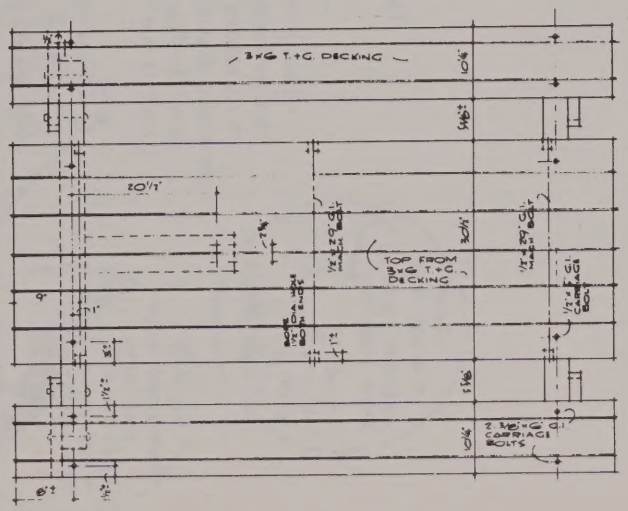
Fig. 15



SIDE



END



TOP

MATERIAL LIST

TOP ASSEMBLY

4 - 3x6 T+G 83 1/2"
1 - 3x6 T+G 83 1/2" W/ TONGUE RIPPED OFF TO 4 3/4" NET
1 - 3x6 T+G 83 1/2" W/GROOVE RIPPED OFF TO 4 3/4" NET

SEAT ASSEMBLY

2 - 3x6 T+G 83 1/2"
2 - 3x6 T+G 83 1/2" W/TONGUE RIPPED OFF TO 2 1/2" NET
2 - 3x6 T+G 83 1/2" W/GROOVE RIPPED OFF TO 2 1/2" NET

LEGS

4 - 3 1/2" x 5" NET x 30"

SEAT SUPPORTS

4 - 2 x 10 x 15"

BRACES

2 - 3 1/2" x 5" NET x 53"

CLEATS

4 - 3 x 4 x 10"

BRACKETS

2 - 3 1/2" x 5" NET x 24"

HARDWARE

3 - 1/2" x 29" G.I. MACH BOLTS
4 - 1/2" x 8 1/2" G.I. " "
2 - 1/2" x 7" G.I. " "
4 - 1/2" x 5 1/2" G.I. CARRIAGE BOLTS
16 - 3/8" x 6" G.I. " "
4 - 3/8" x 5" LAG SCREWS

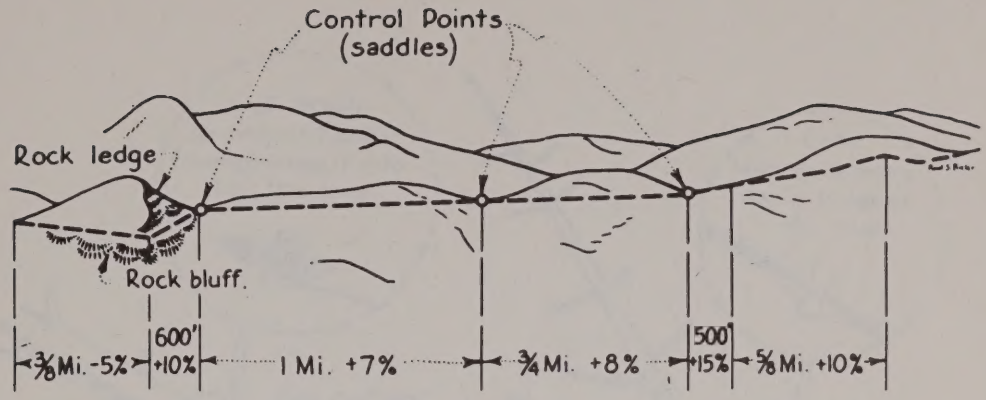
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AREA E
OREGON

HEAVY PLANK PICNIC TABLE
PLAN & SECTION
SCALE 1 1/2" = 1'

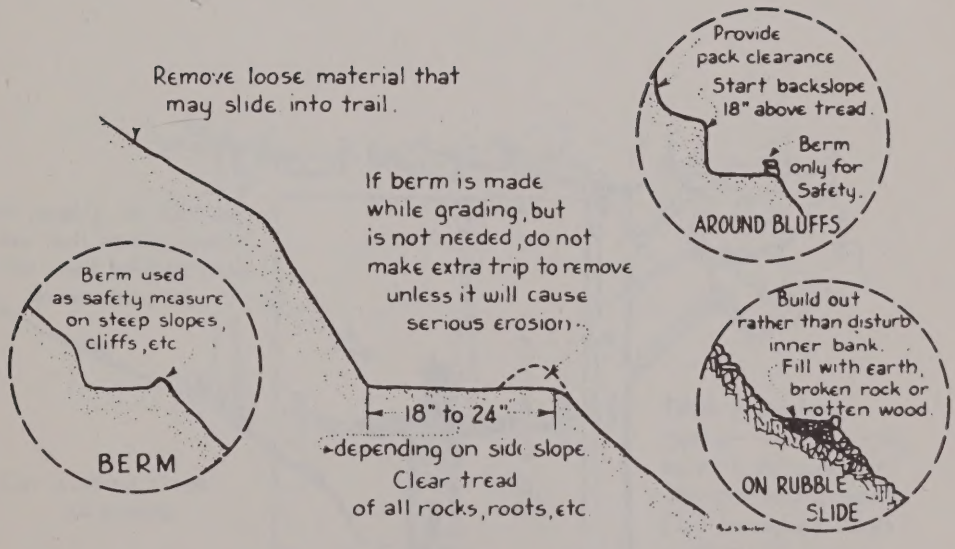
Drawn — KAH 11/76
Traced — KA
Checked — J.L.G.

Submitted 11-11-76
Recommended 12/15/76
Approved 12/16/76

Fig. 16

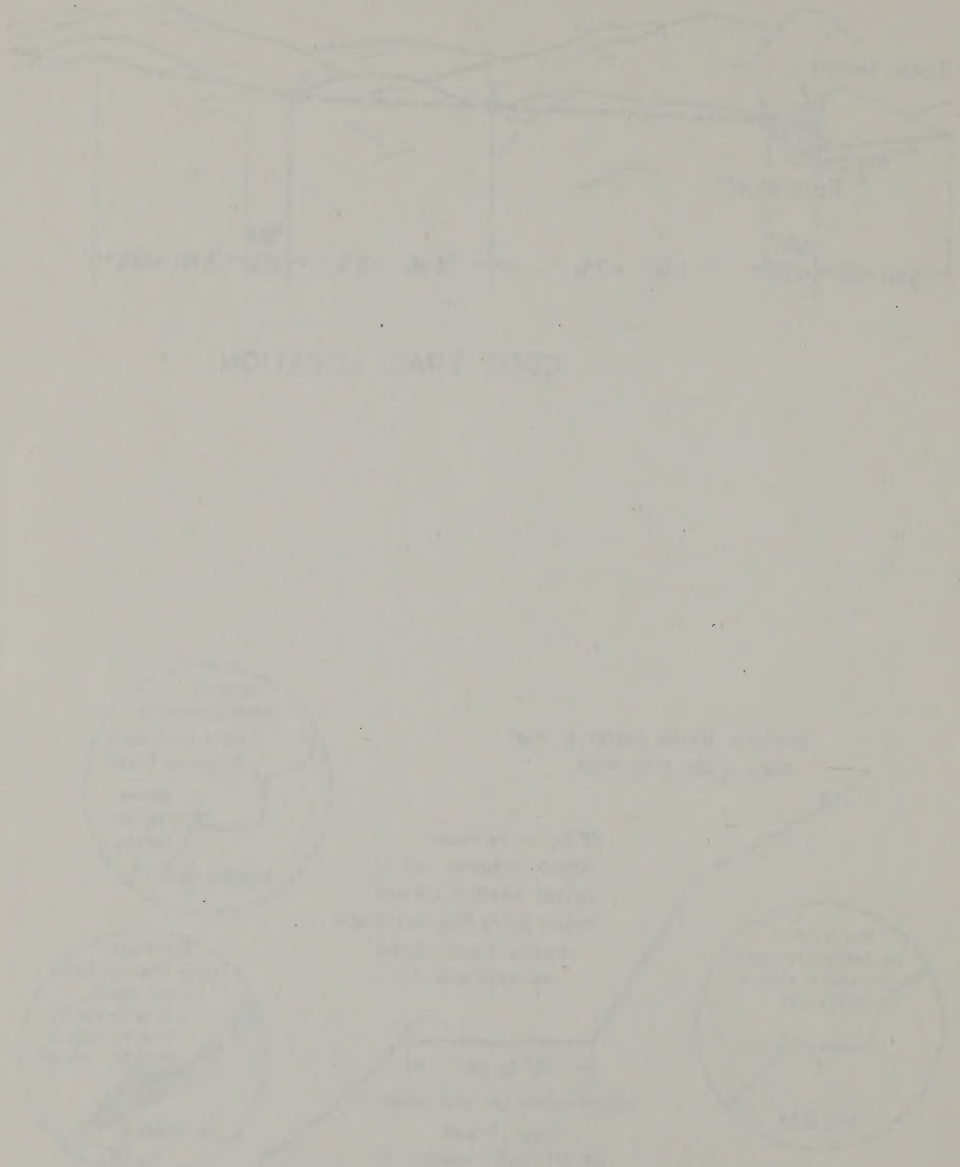


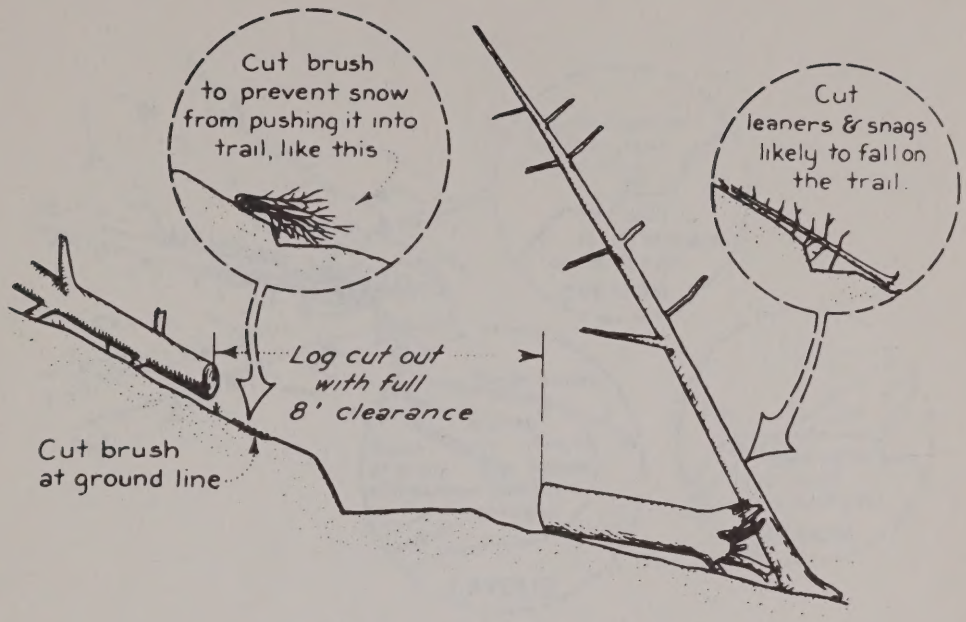
GOOD TRAIL LOCATION



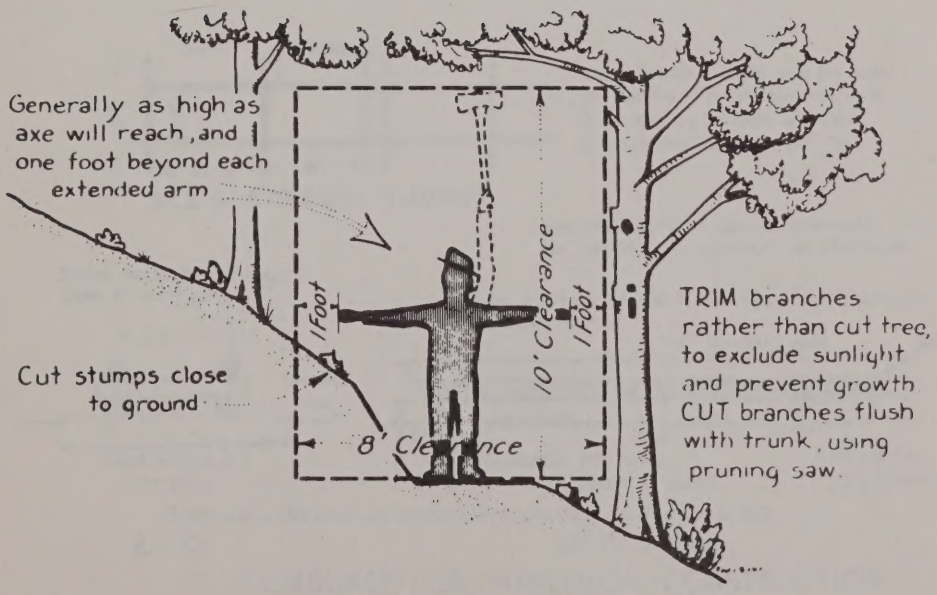
TYPICAL TRAIL ON SLOPES

Fig. 17



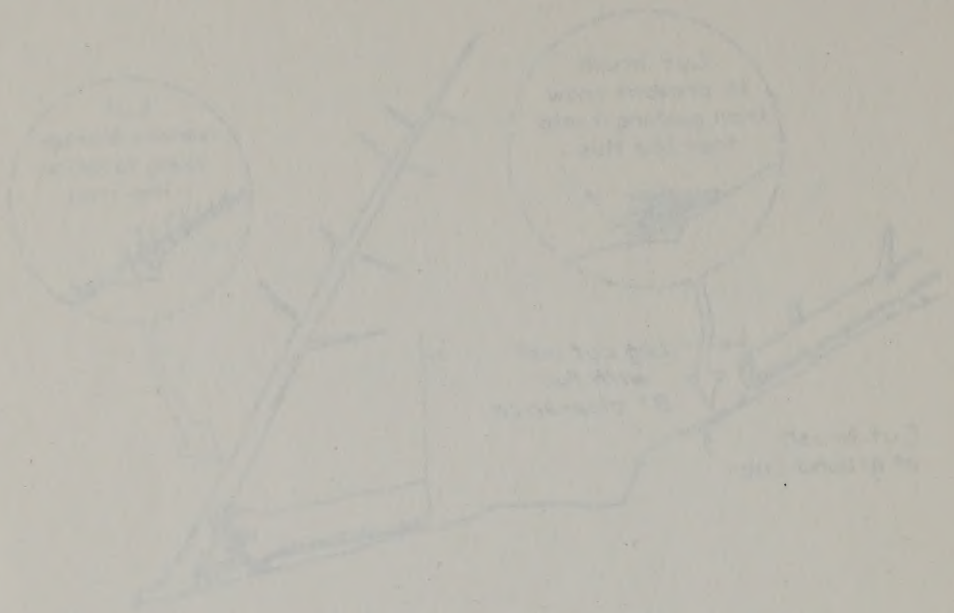

Cut brush to prevent snow from pushing it into trail, like this
Cut leaners & snags likely to fall on the trail.
Log cut out with full 8' clearance
Cut brush at ground line

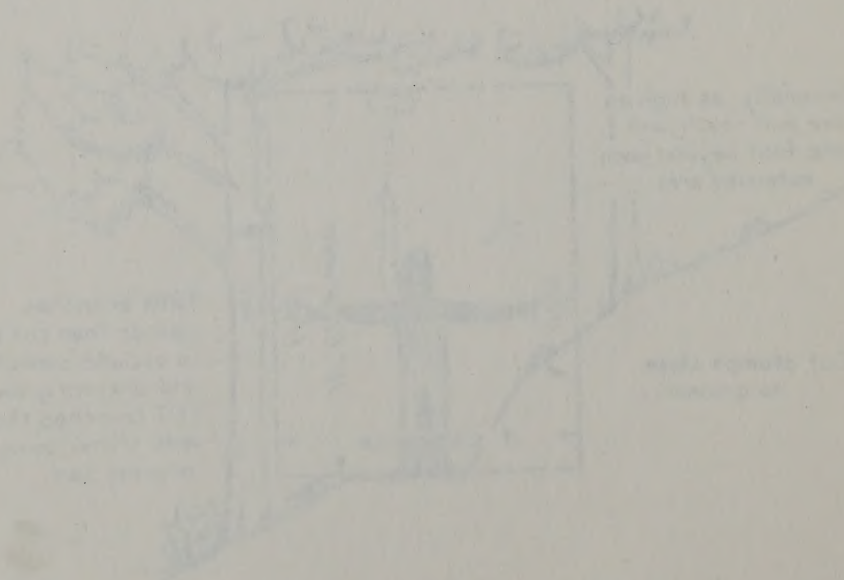
GOOD CLEARING PRACTICE

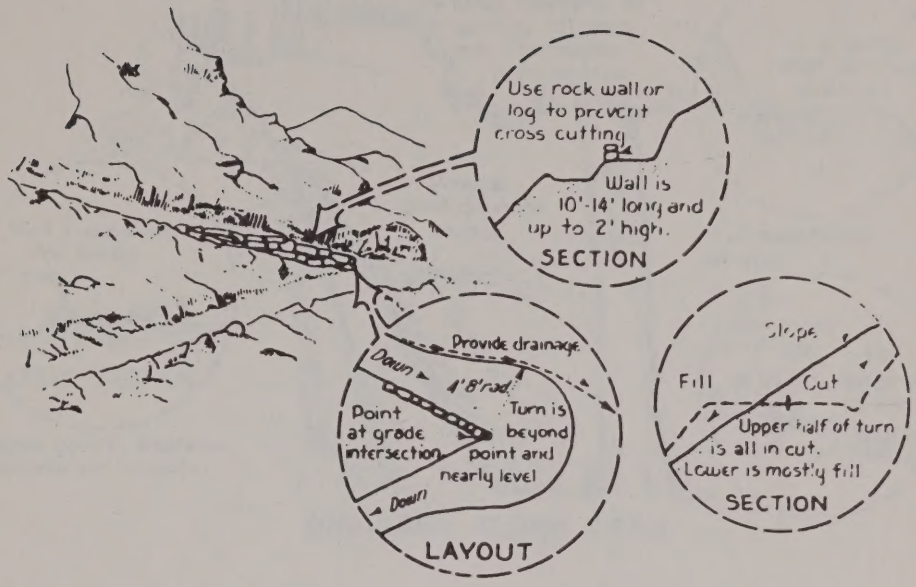

Generally as high as axe will reach, and one foot beyond each extended arm
1 Foot
10' Clearance
1 Foot
8' Clearance
Cut stumps close to ground
TRIM branches rather than cut tree, to exclude sunlight and prevent growth
CUT branches flush with trunk, using pruning saw.

GOOD CLEARING PRACTICE

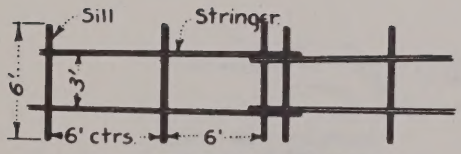
Fig. 18







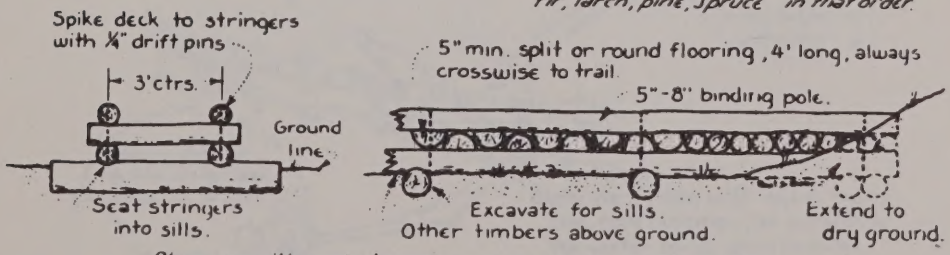
SWITCHBACK



Lay stringer ends side by side at joints - on double mud sills. Stringers and sills at least 8" in diameter. Peel all logs.

SILL & STRINGER LAYOUT

Use most durable species available - cedar, fir, larch, pine, spruce - in that order.

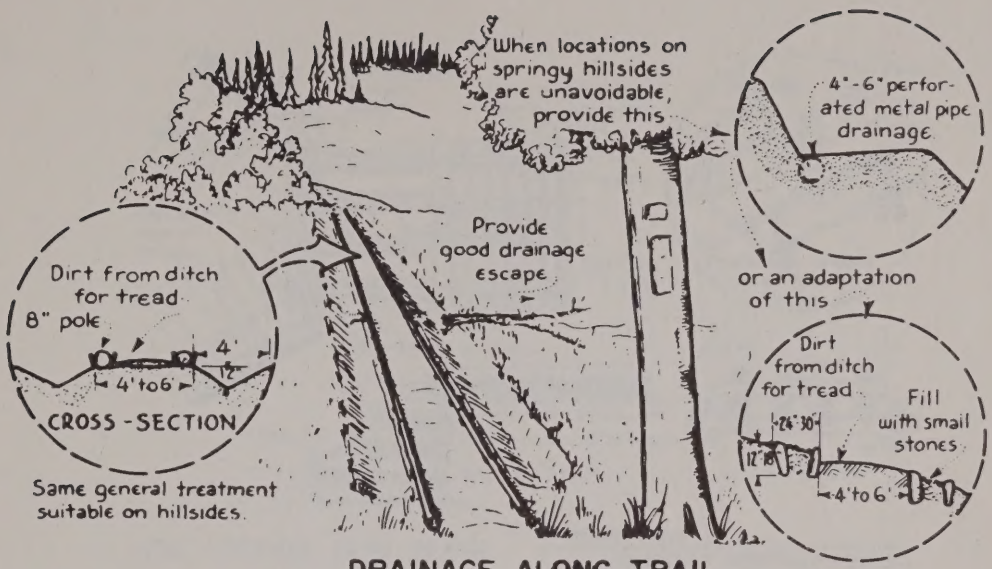

Spike deck to stringers with ¼" drift pins
3' ctrs.
Ground line
Seat stringers into sills.
5" min. split or round flooring, 4' long, always crosswise to trail.
5"-8" binding pole.
Excavate for sills. Other timbers above ground.
Extend to dry ground.

Place so sills and stringers are always wet, if possible.

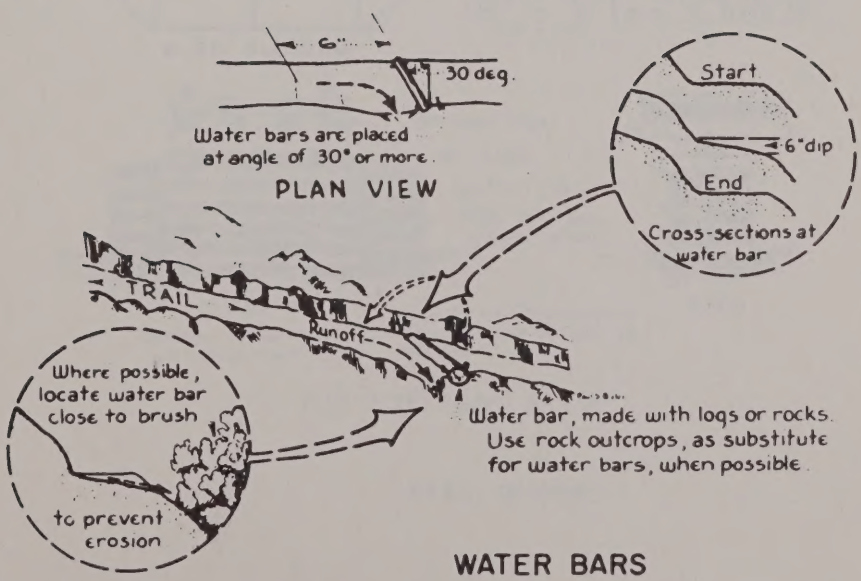
END SIDE VIEW

CORDUROY OR PUNCHEON CONSTRUCTION

Fig. 19

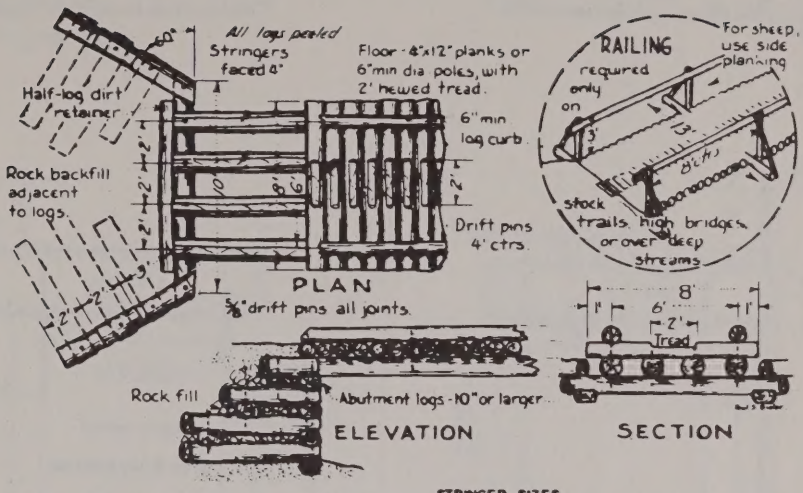


DRAINAGE ALONG TRAIL


6"
30 deg.
Water bars are placed at angle of 30° or more.
PLAN VIEW
Start
6" dip
End
Cross-sections at water bar
TRAIL
Runoff
Where possible, locate water bar close to brush
to prevent erosion
Water bar, made with logs or rocks. Use rock outcrops, as substitute for water bars, when possible.

WATER BARS

Fig. 20


All logs peeled
Stringers faced 4"
Floor - 4"x12" planks or 6" min dia poles, with 2' hewed tread.
Half-log dirt retainer
6" min log curb
Rock backfill adjacent to logs.
Drift pins 4' ctrs.
PLAN
5/8" drift pins all joints.
RAILING required only on
For sheep, use side planking
stock trails, high bridges or over deep streams
Rock fill
Abutment logs - 10" or larger
ELEVATION
SECTION
Tread

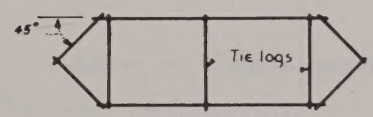
LOG STRINGER TRAIL BRIDGE

STRINGER SIZES

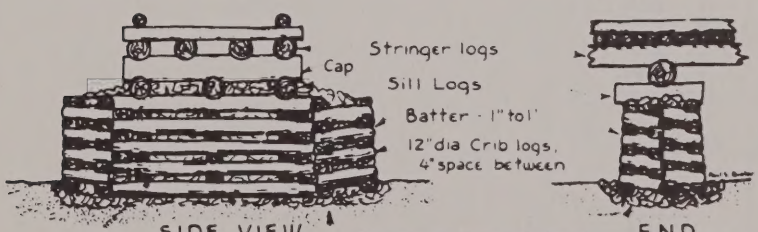
SPAN	3 STRINGERS		4 STRINGERS		5 STRINGERS	
	Sawn *	Round	Sawn *	Round	Sawn *	Round
8'	3 X 6	6"	3 X 6	5"	3 X 6	5"
10'	3 X 6	7"	3 X 6	6"	3 X 6	6"
12'	3 X 8	7"	3 X 8	7"	3 X 8	7"
14'	4 X 8	8"	3 X 10	8"	3 X 8	8"
16'	4 X 10	9"	3 X 10	8"	3 X 10	8"
18'	6 X 8	10"	3 X 12	9"	3 X 12	9"
20'	6 X 10	11"	3 X 12	10"	3 X 12	10"
22'	6 X 10	11"	4 X 12	11"	4 X 12	10"
24'	6 X 12	12"	6 X 12	12"	6 X 12	11"
26'	6 X 14	13"	6 X 12	12"	6 X 12	12"
28'	6 X 14	14"	6 X 14	13"	6 X 12	13"
30'	6 X 16	14"	6 X 14	14"	6 X 14	13"
32'	6 X 16	15"	6 X 16	14"	6 X 14	14"
34'	—	16"	8 X 16	15"	6 X 16	15"
36'	—	16"	8 X 16	16"	8 X 14	16"

* Sawn stringers are rough

Use 5/8" drift pins at all joints



PLAN DIAGRAM



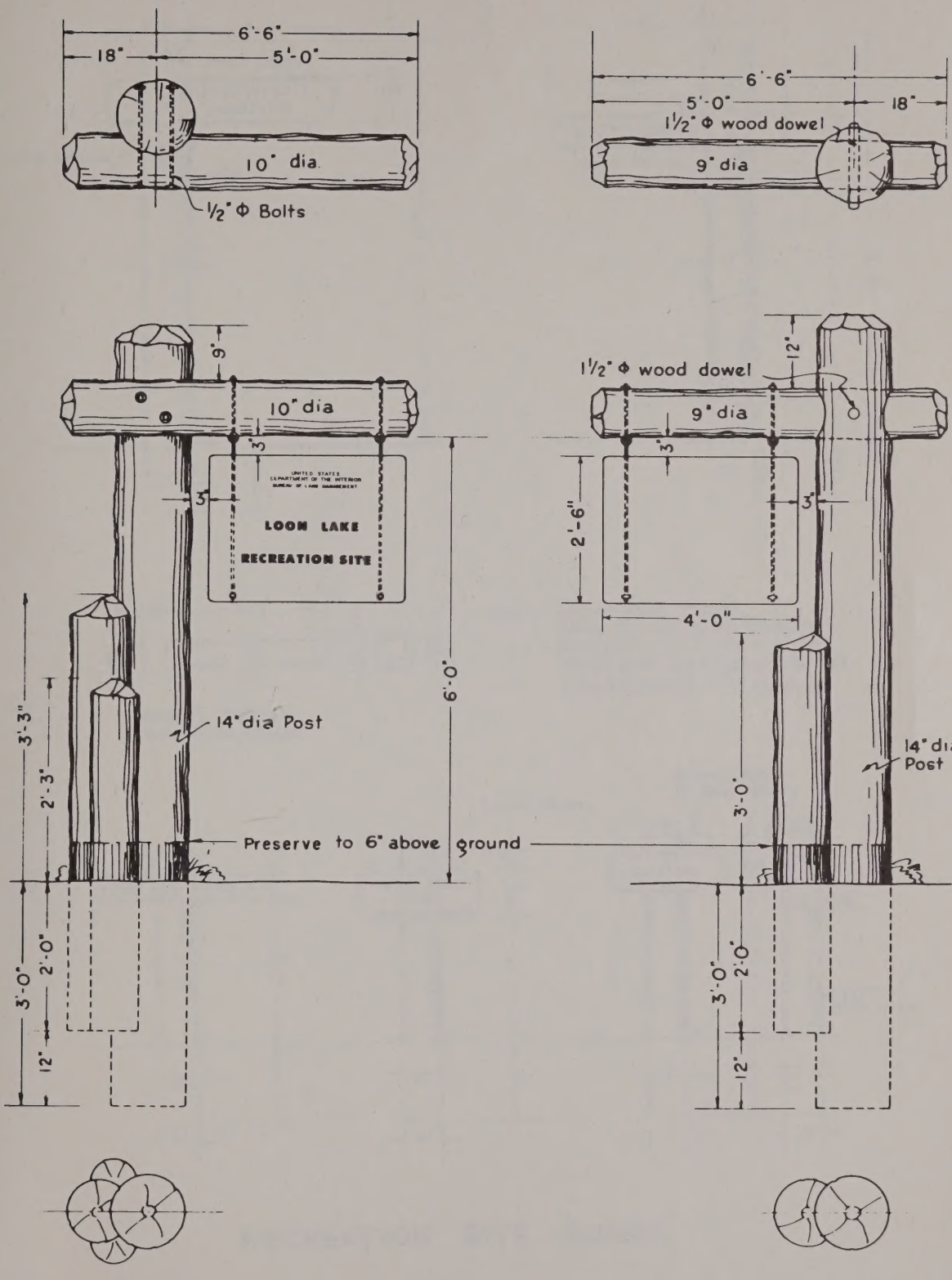
Use size stones that will not wash out

Place on solid foundation of big boulders or bedrock, or put floor in crib

PIER FOR TRAIL BRIDGE

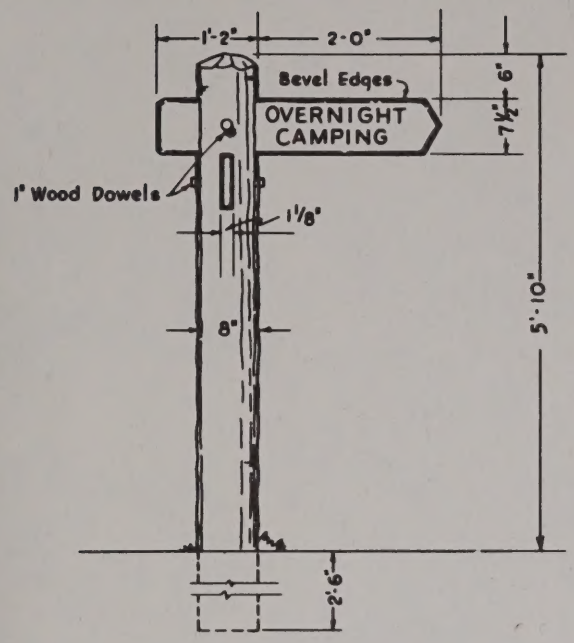
TRAIL BRIDGES

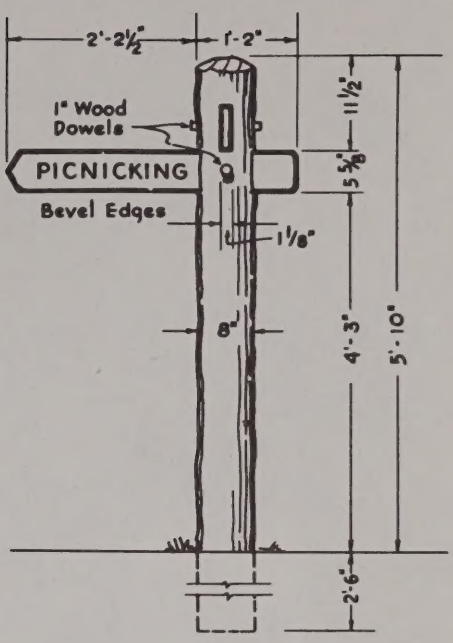
Fig. 21

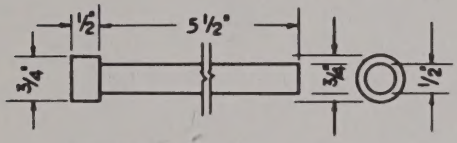


RECREATION SITE ENTRANCE SIGNS

Fig. 22

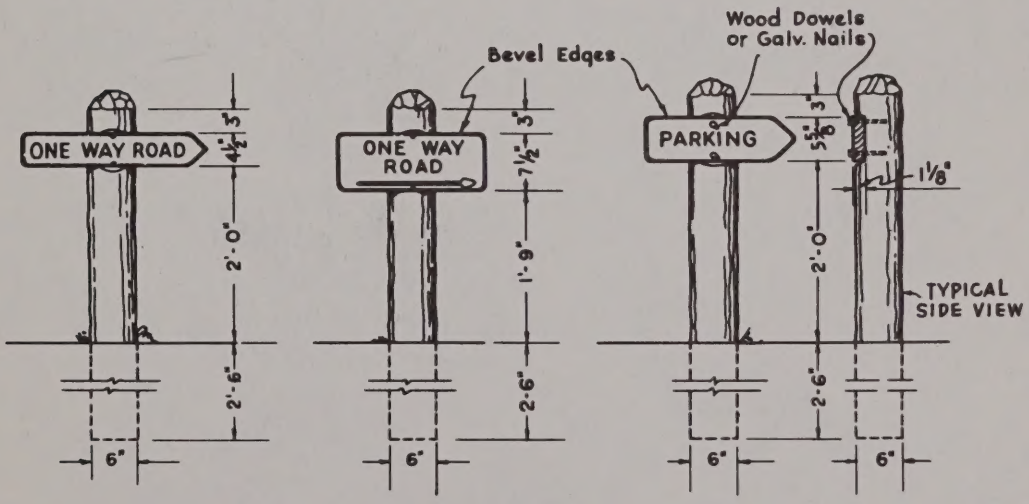






DOWEL DETAIL
FOR SIGNS BELOW

Notes: Letters to be 2" high.
Butts of posts to be treated with preservative to 6" above grade.
4"X4" cedar posts optional for use.
Color treatment F.P.L. Moccasin.



RECREATION SITE SIGNS

Fig. 23

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